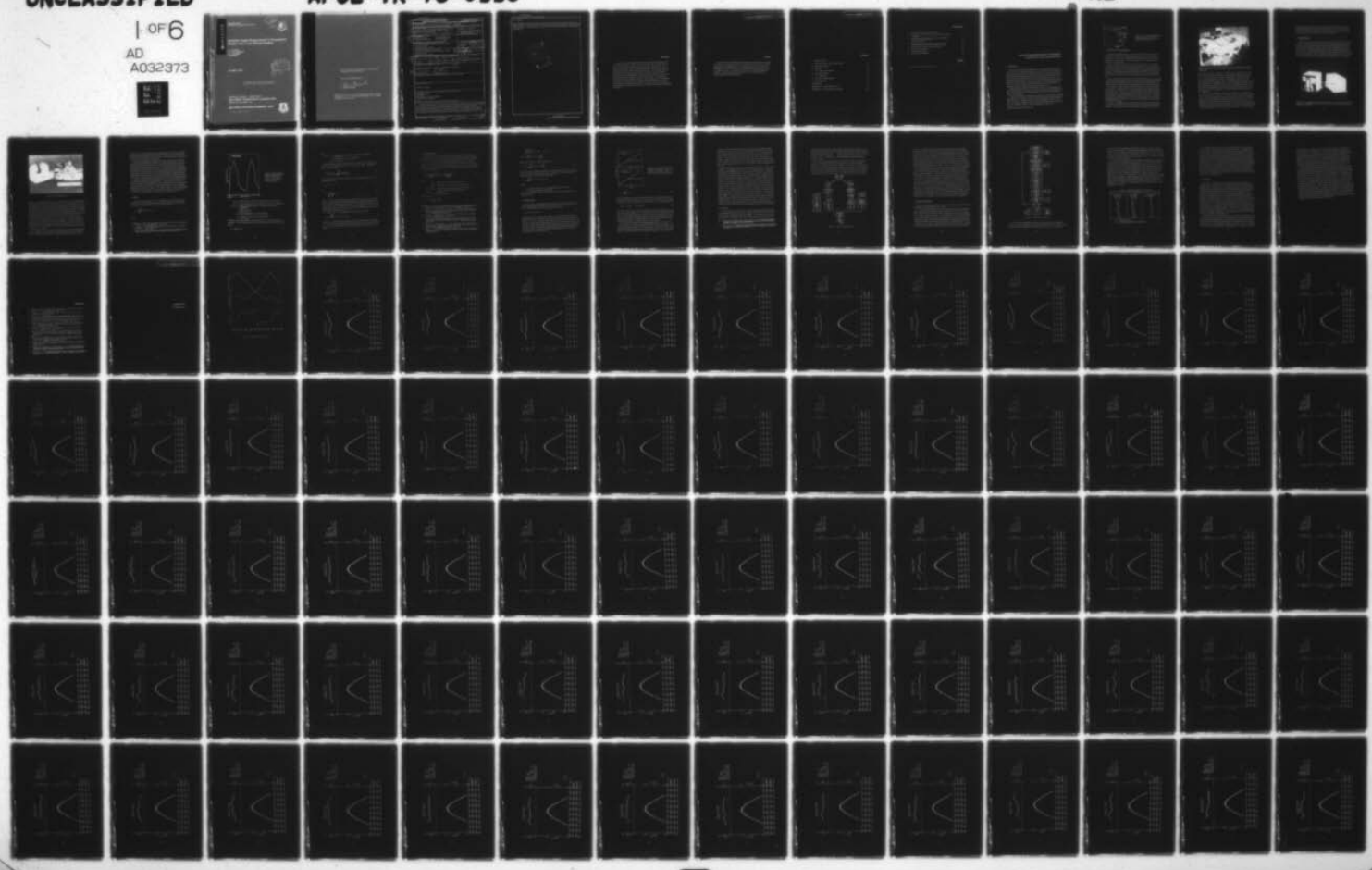
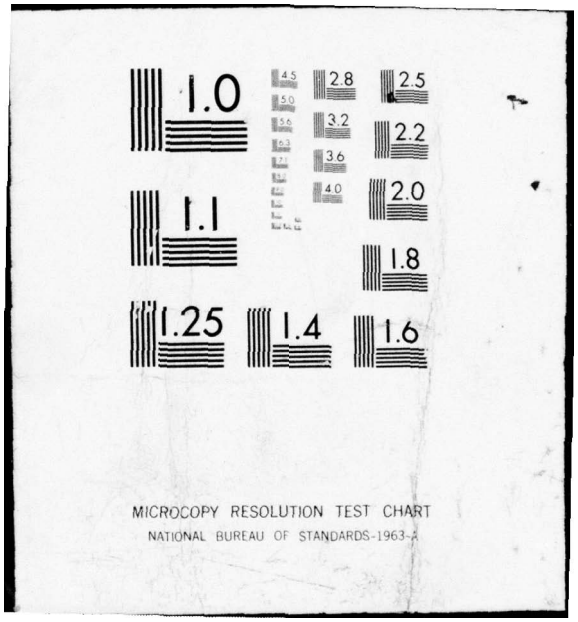
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Ionization Gauge Measurements of Atmospheric Density from a Low Altitude Satellite

J. P. McISAAC
K. S. W. CHAMPION
R. E. McINERNEY
D. DELOREY

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AIR FORCE GEOPHYSICS LABORATORY
HANSCOM AFB, MASSACHUSETTS 01731

AIR FORCE SYSTEMS COMMAND, USAF

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Ionization Gauge Measurements of Atmospheric
J.P. McIsaac

This technical report has been reviewed and is approved for publication.

FOR THE COMMANDER:

John Howard

Chief Scientist

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Results obtained from an Air Force Satellite launched in the fourth quarter of 1974 are presented. Ionization gauge measurements of atmospheric density were performed, and the values obtained from these measurements are presented in two appendices in the form of density vs altitude and time plots. The method of data reduction and its application is developed and discussed. The reduction technique differs from previously used techniques in that it is

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more suitable for the processing of large data files such as those obtained from satellite flights, as well as featuring a lessened dependence upon attitude determination. The experiment is also described and the theory of operation is given.



Summary

Measurements of atmospheric neutral density over the altitude region from 160 to 300 km are given. These in situ measurements were performed over the northern hemisphere during the period from November 1974 to January 1975. In addition to the density results, the experiment, theory, method of measurement, and reduction procedure have been described in detail. It is recognized that certain subjects may have been entirely omitted while other areas, for instance gauge calibration and sensitivities, have been treated in a general manner. This was done in order to facilitate the completion of the report. It is intended that these subjects will be discussed in detail in a second report that will complete the compilation of results and provide a complete and unified density file for use in further studies, correlations, and analyses. As this is the case, no attempt has been made to interpret the data nor have any conclusions been presented concerning the results.

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Preface

The authors wish to thank the many individuals who contributed to the successful preparation, launching, and operation of the satellite and its payloads. Special appreciation is acknowledged to Dr. R. Herzog for fabrication and calibration of the gauge sensors, to R. Thornton for instrument design and construction, and to C. Reynolds and Capt. D. Davenport for their advice and support throughout the program. Particular gratitude is expressed to Dr. C. R. Philbrick for his encouragement and helpful discussions.

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Ionization Gauge Measurements of Atmospheric Density From a Low Altitude Satellite

1. INTRODUCTION

One of the experiments flown onboard an Air Force satellite launched in October 1974 was a cold cathode ionization gauge. Measurements were acquired over a 7-month period, the life of the satellite, into May 1975. Atmospheric densities deduced from the measurements performed in the period from November 1974 to January 1975 have been processed and are given in Appendices A and B. Measurements performed after January 1975 are currently being processed and will be presented in a future report. The density results are for an altitude region near perigee covering a symmetric altitude range centered around the perigee and extending in height up to approximately 300 km (see Figure 1).

Depending upon the location and altitude of perigee, a recorded perigee pass could vary in time from 15 to 20 min and cover a latitude span of approximately 70 deg. Flight operations and the data acquisition plan are more fully described in Section 2 of this report.

Other sections include a description and discussion of the satellite, the experiment, theory of measurement, and the processing and reduction technique used to obtain the results. Density results are given in Appendices A and B. The results are presented, however, without any attempt to analyze or interpret them in terms of atmospheric structure, as that is planned for a future date.

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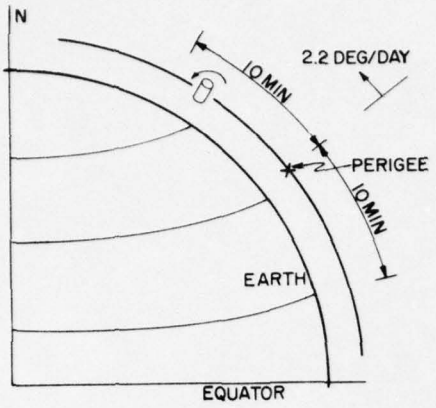


Figure 1. Orbital Segment Depicting Perigee Pass. Data acquisition occurs during the 10-min periods before and after perigee

2. SATELLITE AND FLIGHT OPERATIONS

The primary objective of the Air Force satellite mission was to investigate and perform measurements of thermospheric properties that influence upper atmospheric structure. To accomplish this objective, the spacecraft was instrumented with a complementary payload consisting of density, composition, and energy-source experiments.

The spacecraft payload was placed into an elliptical polar orbit inclined at 96.98 deg, with perigee and apogee heights of 158.6 and 3761.8 km respectively. Initial perigee location was at 44.9 deg north latitude, and it precessed northward at a rate of 2.22 deg per day. Following injection of the satellite into orbit, the satellite was maneuvered into its operational attitude, which was spin stabilized and oriented to have the spin axis directed within 5 deg of the normal to the orbit plane.

The maneuvering and maintenance of the satellite's attitude were accomplished by means of magnetic torquing coils that interacted with the earth's magnetic field to provide the forces needed to control or maintain the desired orientation. The magnetic torquing system functioned smoothly throughout the satellite's lifetime.

The adjunct to attitude control is attitude determination, and this information was provided by a combination of earth and sun sensors whose outputs served as a primary source of reference data. Backup capabilities were provided by a three-axis magnetometer. This backup capability was utilized very early in the flight as the earth sensor responded erratically when the vehicle was sun-lit. The operational attitude was then determined from a sun sensor-magnetometer combination during daylight hours, and from an earth sensor-magnetometer combination when the satellite was occulted.

Figure 2, a photograph of the satellite, shows the spacecraft's magnetometer boom, some solar panels, and some payload sensors mounted in their flight configuration. The earth sensor can be seen located about midpoint on the surface,

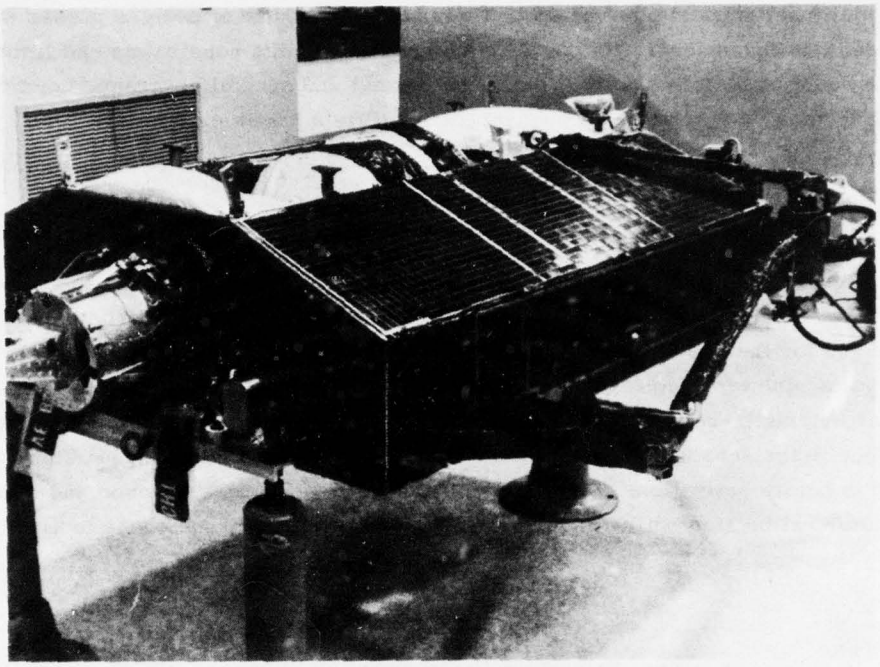


Figure 2. Spacecraft Shown With Solar Panels and Thermal Blankets Installed. On the forward surface some experimental sensors can be seen in their flight configuration

at the right of the figure, embedded in the solar panels. The solar panels were the principle power source, operating satellite systems directly during daylight hours. For night operation, systems were powered by batteries that had been charged from the solar cells. Normal on-orbit support consisted of payload operation during alternate orbits. Where a payload operation consisted of recorded measurements over a perigee pass (which is an orbital segment centered at perigee), the pass was automatically cycled to occur at a predetermined height before perigee and to terminate at the same predetermined height after perigee. Once per week, in addition to perigee pass coverage, a full orbit of payload operation was recorded.

In the event of an atmospheric disturbance—for instance, magnetospheric storms or strong solar flare activity, a plan for additional support was formulated. Criteria had been established that involved setting up alert indices with threshold values that when exceeded would identify the onset of the activity event. With the triggering of the threshold value, additional support coverage was initiated and continued as long as the event was in progress. Other criteria had been established to identify when the event had subsided; once this occurred, special coverage would cease and support would revert to normal orbital operations. In actual practice,

the additional support plan meant that a maximum number of perigee passes consistent with the spacecraft's power and thermal system's constraints and limitations would be obtained. Both plans, for normal and special coverage, functioned without a major disruption throughout the satellite's lifetime.

3. INSTRUMENTATION

Figure 3 shows the ionization gauge experiment that was flown on the Air Force satellite. The unit shown on the right of the figure houses the electronic circuitry required for the operation of the gauge sensor. Included in this unit are high and low voltage power supplies, monitor, calibration and conditioning circuits, and a linear automatic-range-switching amplifier. The unit with the reflective front surface is the sensor unit; it is shown with the gauge uncapping mechanism in place, as it is before activation. Figure 4 shows the ionization gauge sensor and its magnet after calibration but before installation into a flight package. The ionization

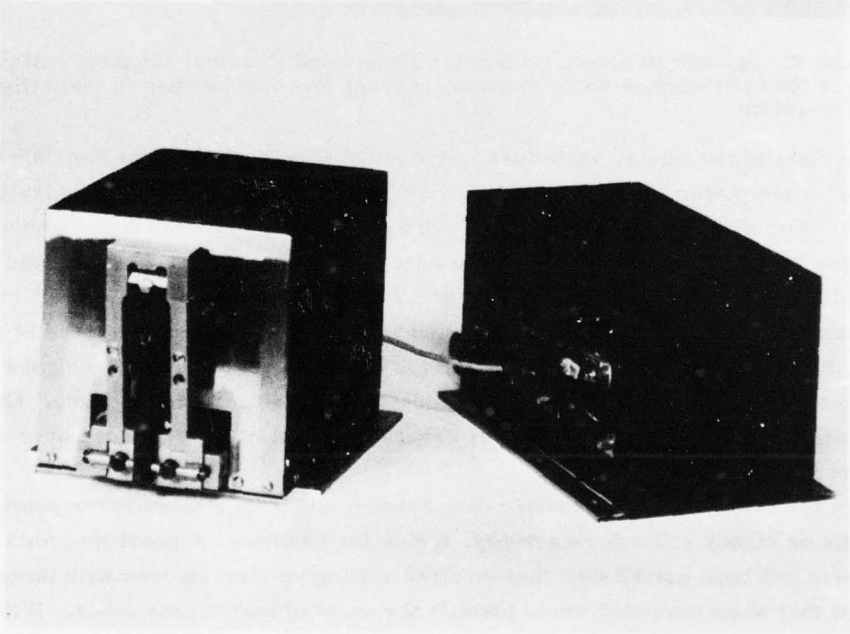


Figure 3. Ionization Gauge Flight Unit; Electronics are Packaged in the Unit Shown to the Left. The polished surface area on the sensor unit is the surface exposed to the ambient atmosphere

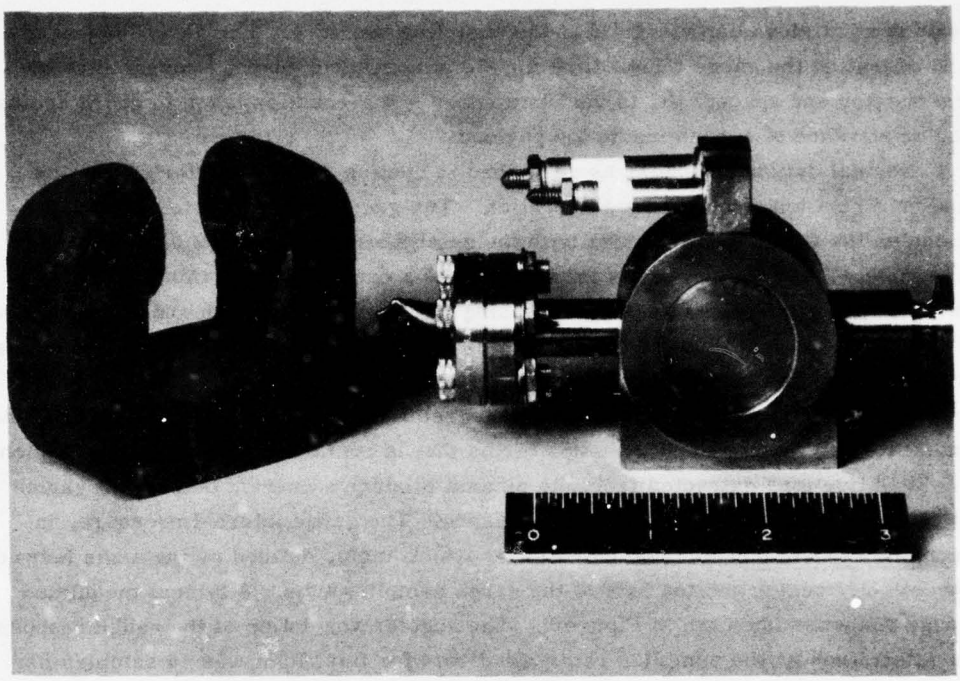


Figure 4. Cold Cathode Gauge

gauge is a cold cathode magnetron type. The connection with an attached demountable flange located to the left of the gauge body is for calibration purposes. Following calibration, the gauge is evacuated and sealed preparatory to being assembled into a flight unit. The sealing off process is performed by "pinching off" the copper calibration stem, which can be seen to the left of the flange attachment. Extending from the right-hand side of the gauge body is the sampling tabulation. This is the connection that is opened to the atmosphere once the gauge has been placed in orbit. The gauge opening or uncapping mechanism fits about the sampling tube and is firmly attached to the tube by means of a lever arm that is fastened onto the tube end cap. Upon activation of the lever arm, a torque is created that ruptures the sampling tube and exposes the gauge to the environment. The break-off interface for the sampling tube is defined by the groove located just to the rear of the end cap (Figure 4). At the midpoint of this groove the wall thickness has been reduced from 0.125 in. to 0.005 in.

The gauge is opened to the ambient atmosphere by means of explosive bellows that are enabled and fired by ground command some 24 hr after orbit has been obtained. The gauge end cap together with the break-off mechanism are ejected,

leaving a 2π steradian viewfield at the sampling aperture. The delay in opening and operating the gauge allows time for the atmospheric gases, brought aloft by the booster and spacecraft, to vent into space – a precaution taken to guard against the occurrence of corona inside the payload.

Normal data acquisition, as described in Section 1, begins after evaluation and confirmation of experiment operation. The gauge sensor located in the spin plane on the spin equator rotates with the satellite so that the sampling aperture alternately faces into and away from ram. As a consequence of this, the gauge internal pressure is modulated, increasing to a maximum at ram and subsequently decreasing to a minimum at wake. Ram is that portion of the spin cycle where the angle between the velocity vector and the sampling tube axis is less than 90 deg, with maximum ram occurring at a zero degree attack angle. Within the gauge, the internal gas is ionized and a plasma forms that is confined to the discharge region.

Positive ions extracted from the plasma produce a current output that varies in magnitude in proportion to gauge pressure. The gauge internal pressure, in turn, is a function of ambient density and attack angle, defined as the angle between the velocity vector and the axis of the gauge sampling tube. A typical modulated gauge response is shown in Figure 5. The angular resolution of the gauge response is determined by the sampling rate. That rate for this flight was 16 samples per sec, which was approximately 1 measurement every 2 deg of rotation.

4. THEORY

A number of investigators[1, 2, 3] have developed the theory relating ambient density to ionization gauge measurements under the conditions of satellite flight. The expression relating ambient pressure to gauge pressure is:

$$P_g = \sqrt{\frac{T_g}{T_a}}\, P_a\, R(S,\, D,\, \alpha) \qquad (1)$$

where

1. Pond, H. L. (1962) The effect of entrance velocity on the flow of a rarefied gas through a tube, J. Aerospace Sci., 29:917-920.
2. Ivanoskii, A. I. (1964) Interaction between an instrument cavity and a flow of rarefied gas, Trudy, 56:49-96.
3. Hughes, P. C. (1965) Theory for the Free Molecular Impact Probe at an Arbitrary Angle of Attack, University of Toronto UTIAS Report No. 103.

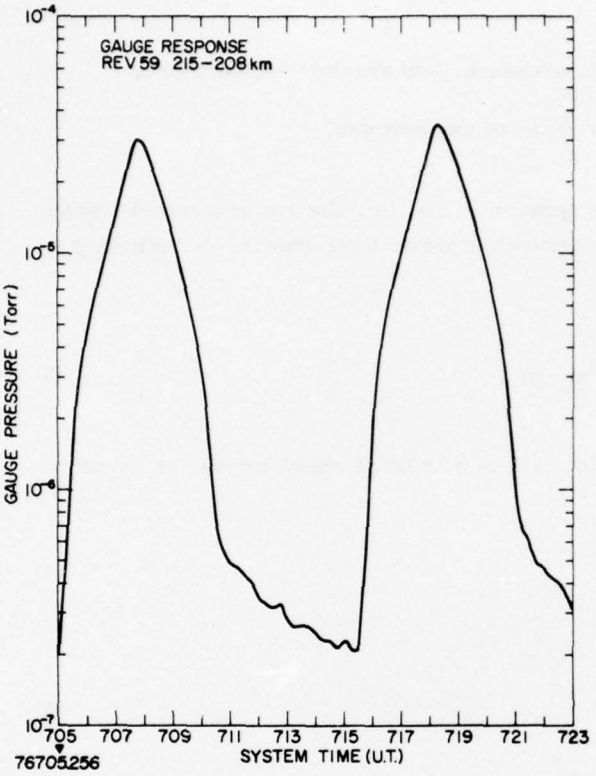


Figure 5. Gauge Response Curves Showing Variation of Gauge Internal Pressure Over Two Satellite Spin Cycles. Maximum ram points are at altitudes of 215 km and 208 km

P_g, P_a = gauge internal pressure and ambient pressure, respectively

T_g, T_a = absolute temperature of the gauge and ambient gas, respectively

$R(S, D, \alpha)$ = gauge sampling tube factor, a function of transmission probabilities

S = speed ratio u/v_m

u = satellite velocity

v_m = most probable velocity of the ambient gas

D = diameter to length ratio of the sample tube

α = attack angle.

Tabulated values and the derived theory for the $R(S, D, \alpha)$ function are given in reference 3. Ambient pressure is related to ambient density by means of the ideal gas law:

$$\rho_a = \frac{M}{R_m} \frac{1}{T_a} P_a \qquad (2)$$

where

ρ_a, P_a, T_a = ambient density, pressure, and absolute temperature, respectively

M = mean molecular mass of ambient gas

R_m = gas constant.

Although ambient temperature appears in Eq. (2), the use of a model computation for this parameter is not as critical as would first appear. Substituting Eq. (1) into Eq. (2) gives:

$$\rho_a = \frac{M}{R_m} \frac{1}{T_a} P_g \sqrt{\frac{T_a}{T_g}} \frac{1}{R(S, D, \alpha)} . \tag{3}$$

With D and α fixed, R is a linear function of S at large speed ratios, as occur in satellite flight. Thus,

$$R = a S + b \tag{4}$$

or

$$R = \frac{a u}{\sqrt{\frac{2 R_m T_a}{M}}} + b , \tag{5}$$

where a and b are constants and the other symbols remain as previously defined. Hence, the dependence of the density calculation upon ambient temperature is less than a square root dependence; knowledge of T_a is still needed to determine s and, consequently, the sampling function. However, that dependence can be made less sensitive to changes in T_a with the proper choice of sampling geometry, which will determine the coefficient of s in Eq. (4).

In practice Eq. (1) is modified with an additive term becoming:

$$P_g = \sqrt{\frac{T_g}{T_a}} P_a R(S, D, \alpha) + P_{out} \tag{6}$$

where P_{out} = residual gauge pressure and the other symbols remain as defined in Eq. (1). The residual pressure is the pressure within the gauge volume that does not vanish as the gauge rotates through wake and enters the ram phase of the spin cycle.

4.1 Oxygen Recombination

In calculating the internal gauge pressure, we have assumed atomic oxygen recombining to form molecular oxygen. This is considered a reasonable assumption in view of the experimental results obtained from mass spectrometer measurements.[4-8] The influence of recombination has been treated in some detail by Repnev,[9] and his results agree with the approximation given below. We assume that atomic oxygen entering the gauge recombines to form molecular oxygen before ionization. Equating the number of particles entering and leaving the gauge results in the following expression:

$$\frac{n_a(o)\, v_a(o)\, R(S,\ D,\ \alpha)\, A}{2\sqrt{\pi}} = \frac{n_g(o_2)\, v_g(o_2)\, A}{2\sqrt{\pi}} \tag{7}$$

where

$n_a(o)$ = number density of ambient atomic oxygen

$n_g(o_2)$ = number density of molecular oxygen in the gauge

$v_a(o)$, $v_g(o_2)$ = most probable velocity of ambient atomic oxygen and gauge molecular oxygen, respectively.

$R(S,\ D,\ \alpha)$ = tubular factor

A = tube aperture area.

Solving for n_g:

$$n_g = \frac{\left(n_a\, v_a\, R(S,\ D,\ \alpha)\right)}{v_g}\ , \tag{8}$$

---

4. Philbrick, C. R. (1974) Satellite measurements of neutral atmospheric composition in the altitude range 150 to 450 km, Space Res., 15:151-156.
5. Hedin, A. E., Hinton, B. B., and Schmitt, G. A. (1973) Role of gas-surface interactions in the reduction of OGO-6 neutral particle mass spectrometer data, J. Geophys. Res. 78:4651-4668.
6. von Zahn, U., Fricke, K. H., and Trinks, H. (1973) ESRO 4 gas analyzer results, J. Geophys. Res., 78:7560-7562.
7. Nier, A. O., Potter, W. E., Kayser, D. C., and Finstad, R. G. (1974) The measurement of chemically reactive atmospheric constituents by mass spectrometers carried on high-speed spacecraft, Geophys. Res. Letters, 1:197-200.
8. Lake, L. R., and Krankowsky, D. (1975) Influence of surface recombination in satellite atomic oxygen measurements inferred from the AEROS-A mass spectrometer, Geophys. Res. Letters, 2:545:548.
9. Repnev, A. I. (1962) On the influence of recombination of atoms in instruments during measurements of composition and density of the upper atmosphere, Trudy, 40:77-84.

$$v = \sqrt{\frac{2 R_m T}{M}} \text{ and } 2\,M(o) = M(o_2), \text{ then}$$

$$n_g = n_a \sqrt{T_a}\, R(S, D, \alpha) \sqrt{\frac{2}{T_g}} \quad . \tag{9}$$

Since $p = nkT$, Eq. (6) in terms of pressure is:

$$P_g = P_a \sqrt{\frac{T_g}{T_a}}\, R(S, D, \alpha) \sqrt{2} \quad . \tag{10}$$

Thus, for the case of total recombination, the internal gauge pressure is increased by a factor equal to the square root of two. Introducing a factor for recombination effects into Eq. (6) gives the following expression:

$$P_g = \sqrt{\frac{T_g}{T_a}}\, P_a\, R(S, D, \alpha)\, \delta + P_{out} \tag{11}$$

where

δ = recombination factor; for no recombination δ equals unity and for total recombinations equals $\sqrt{2}$.

The above expression is used to reduce the data in the manner discussed in the following section.

5. DATA REDUCTION

The first step in processing the ionization gauge measurements was to obtain internal gauge pressure measurements as a function of attack angle for each spin cycle. Following this a linear least squares fit of the form

$$P_g = m\, R(S, D, \alpha) + c \tag{12}$$

was performed twice per spin cycle, once for values entering ram and again for values leaving ram. An example of a fit obtained during revolution 59 is shown in Figure 6. The values of the parameters used in Eq. (9) for both the into and out of ram fits are restricted to attack angles in the interval from 70 deg to 20 deg. This interval is further reduced at low altitudes, due to the occurrence of gauge saturation. In that event, the fit interval is compressed in the direction away from ram to whatever value is required to exclude the saturation level. The slope of the least squares fit involving P_g and R is:

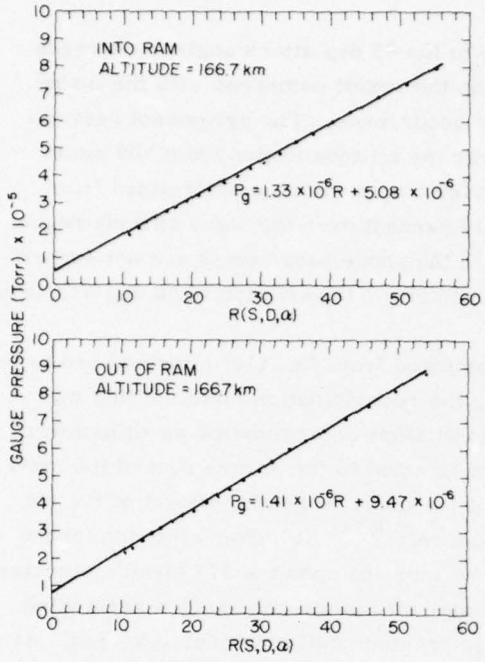


Figure 6. Least-Squares-Fit Data Acquired on Orbit 59. The 166.7 km altitude is the altitude at which maximum ram occurred. The solid line is a least-squares fit to the data

$$M = \sqrt{\frac{T_g}{T_a}} \; P_a \, \delta \, . \tag{13}$$

From this equation two values of ambient pressure are computed, one from data obtained as the gauge approaches ram and the second as it moves away from ram. For each spin cycle, a mean pressure value defined in Eq. (14) is also calculated:

$$P_{AVG} = \left[(P_a)_{in} + (P_a)_{out} \right] \Big/ 2 \, , \tag{14}$$

where (P_a) in and (P_a) out are the ambient pressure associated with the into and out of rams slopes respectively. The altitude assigned to the mean pressure found above is the altitude of maximum ram (that is, minimum attack angle). In order for Eq. (10) to be valid, the satellite spin period must be sufficiently short such that gauge temperature, ambient temperature, ambient pressure, and the recombination factor will not vary significantly over the fit interval.

The variation was tested by generating the appropriate Jacchia 1971 (J71) model values over spin cycles at altitudes of 300 km, 200 km, and perigee. The variation of ambient pressure over a quarter spin cycle (that is, 20 deg to 70 deg attack angle interval) for the model calculated values was less than 2.5 percent at 300 km, 1.8 percent at 200 km, and 0.10 percent at perigee. Two model values

computed under the conditions appropriate to the 45 deg attack angle occurrence entering and leaving ram were averaged and the result compared with the model value computed directly for maximum ram occurrence. The agreement between the two results was within 0.10 percent over the altitude region from 300 km to perigee. Ambient temperature variation over a spin cycle as determined from model computations was also less than 0.10 percent over the same altitude region, 300 km to perigee. The small variations in the above parameters are not surprising, as for this flight the time span for an attack angle variation of 50 deg was less than 2 sec.

Before ambient pressures could be computed from Eq. (10) a method had to be developed for assessing the value of delta, the recombination factor. This was performed in the following manner: For each slope determination an adjustment was performed wherein delta (δ) was taken as equal to the square root of the ratio of the molecular weight of oxygen to that of the mean molecular weight of the ambient gas as given in the J71 model atmosphere.[10,11] At higher altitudes (above 300 km) a lower limit of 16 would have to be imposed upon the J71 mean molecular weight. This adjustment, of course, assumes all atomic gas species recombine inside the gauge and that the internal gas is predominantly molecular oxygen. At perigee altitudes where the nitrogen content of the atmosphere is significant, the numerator of the delta ratio should be computed to include the molecular weight of nitrogen as well as oxygen; however, this was not undertaken in the calculation of delta. At an altitude of 160 km the effect of including molecular nitrogen into the delta computation was to reduce its value by less than 3 percent. For the purpose of this report, a 3 percent change was not considered large enough to justify the additional analysis procedures that would be required for an inclusion of a model composition factor. Also, it was desirable to formulate a delta factor that is amenable to later modification, particularly as current atmospheric models do not reflect the results obtained from more recent mass spectrometer measurements.

5.1 Processing

It was stated earlier, in the abstract, that the reduction technique simplified and reduced large data files to a more manageable size and format. To illustrate this, consider a perigee pass of 20 min duration. At a spin rate of 5 rpm a total of 100 spin cycles would be accumulated. Processing only ram angles (between

10. Jacchia, L.G., Slowey, J.W., and von Zahn, U. (1975) Latitudinal Changes of Composition in the Disturbed Thermosphere From ESRO 4 Measurements, Smithson. Astrophys. Obs. Report No. 309.

11. Jacchia, L.G. (1971) Revised Static Models of the Thermosphere and Exosphere With Empirical Temperature Profiles, Smithson. Astrophys. Obs. Report No. 332.

± 90 deg of the velocity vector) would produce a file of 9000 measurements. One computer pass listing of these point by point measurements would require 128 pages. The technique described in this report reduces that pass listing size from 128 pages to a total of 2 pages, without a significant loss of data quality or accuracy. As a result a data base is created that is easily manageable and adaptable to further computer analysis.

The unified data processing system (DPS) that was developed is illustrated in Figure 7. In this figure the data flow is depicted from its origin onboard the spacecraft to its termination point, the creation of a data base. The satellite data transmissions are pulse code modulated (PCM) and telemetered to tracking stations where the signals are recorded on tape. The station raw tapes are then forwarded to a central processing station where they are processed and put into a computer-compatible format. Referring to Figure 7, the data flow appears in four distinct

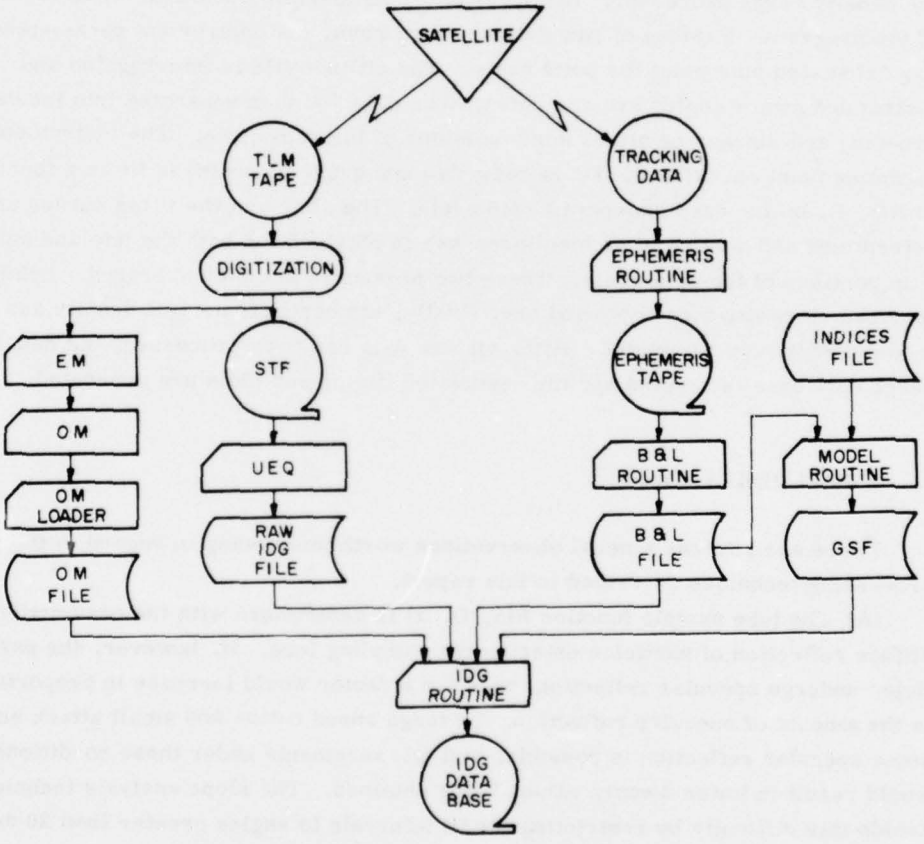


Figure 7. Functional Flow Diagram

branches. The first branch is a routine that processes the spacecraft attitude information, performs time correlations, and relates spacecraft attitude to payload sensor position. The second branch examines the experimental data outputs, unpacks, sorts, quality checks and edits experimental outputs, and converts and correlates these outputs to universal time. The third branch is a routine that receives tracking data as an input and generates an ephemeris file containing all pertinent position parameters as well as the appropriate geomagnetic parameters associated with that position. The fourth branch is an indices file created for use in the computation of atmospheric model (J71) values. This file contains quantities such as solar declination, K_p, $F_{10.7}$ indices, and other geophysical parameters.

The density gauge processing routine requires the usage of the data bases created in the four branches as inputs. Figure 8 is a functional flow diagram of the density gauge processor. All necessary initialization occurs in the first phase of the program. Frames of raw data are then input, and instrument parameters are calculated on a point for point basis. The attitude file is interrogated and instrument attack angles are computed. The data are then separated into the decreasing and increasing attack angle portions of the ram cycle. The instrument sampling function, $R(S, D, \alpha)$, is computed and gauge pressure is fit as a function of $R(S, D, \alpha)$ for each spacecraft spin cycle. The slopes of the fitted curves are determined and a value of ambient pressure is obtained for both the into and out of ram portions of the spin cycle. These two pressures are then averaged. Ephemeris parameters are then computed and, finally, atmospheric neutral density and model density are calculated. After all raw data has been processed, the density gauge data base is created and the associated listing and plots are generated.

6. GENERAL OBSERVATIONS

There are several general observations worth mentioning in regard to the data processing technique described in this report.

(A) The tube sample function $R(S, D, \alpha)$ is determined with the assumption of diffuse reflection of particles entering the sampling tube. If, however, the particles undergo specular reflection, then the R factor would increase in proportion to the amount of specular reflection. At large speed ratios and small attack angles some specular reflection is possible, and measurements under these conditions would result in lower density values being obtained. The slope analysis technique avoids this difficulty by restricting the fit intervals to angles greater than 20 deg of maximum ram. However, although not shown here, results that were processed at small attack angles did not produce conclusive evidence of specular reflection.

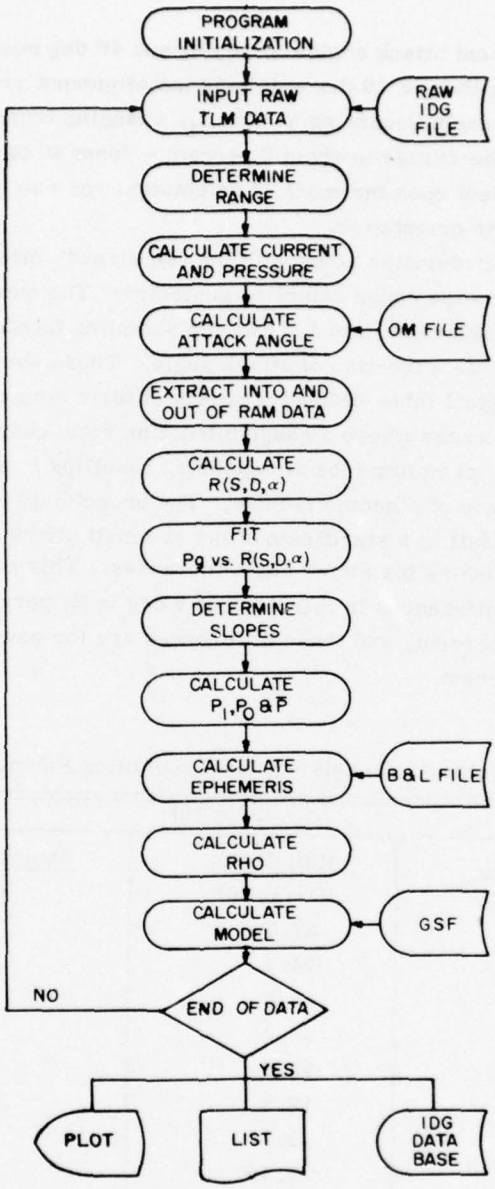


Figure 8. Systems Flow Diagram

(B) As instrument response is processed as a function of time, undetected variations in spin axis position will have their greatest impact at small attack angles, as the spin period is unaffected by the direction of the spin axis. For example,

consider the instrument attack angles of 10 deg and 40 deg occurring at times t_1 and t_2, respectively; then, a 10 deg spin axis misalignment produces a 40 percent change in the attack angle occurring at time t_1, changing from 10 deg to 14.1 deg, whereas at time t_2 the change is about 3 percent – from 40 to 41.2 deg. Of course, this result is dependent upon the mode of orientation and may not apply in the event of a different satellite orientation.

(C) Another consideration along with the two already mentioned is the relationship of the R factor to the gauge sampling geometry. The data shown in Table 1 were obtained from reference 3 and shows the sampling function (R(S, D, α)) for two tubulation ratios as a function of attack angle. These sampling functions are applicable to cylindrical tubes defined in terms of their diameter to length ratio. However, there are cases where a gauge tubulation ratio cannot be precisely defined in terms of the sampling tube dimensions, resulting in an equivalent or effective ratio in place of a geometric one. The uncertainty between the two tubulation ratios would result in a significant effect at small attack angles, but the effect would rapidly diminish as the attack angle increases. This can be seen from Table 1 where the differences in R factors at 0 deg is 26 percent, while at 30 deg the difference is 3 percent, and these differences are for gauge tubulation ratios that differ by 40 percent.

Table 1. Tubulated Gauge Sampling Functions

(S* = 10)		
R(S, D†, α) (D = 0.30)	R(S, D, α) (D = 0.50)	Attack Angle (α) (Deg)
110.3	87.7	0
82.7	74.1	10
50.3	52.4	20
34.5	35.7	30
25.0	25.6	40
18.1	18.3	50
12.4	12.4	60
7.53	7.49	70
3.43	3.38	80
0.515	0.504	90

S* = speed ratio, u/v_m

D† = diameter/length ratio of sampling tube

(D) A final observation concerning the analysis technique is its tendency to minimize the effects of certain types of systematic errors. An example of this would be a change in the spin frequency that produced a mislocation of the minimum ram angle. If the angular offset were in the direction leaving ram, then the out of ram gauge values would be processed with R factors that were too large; consequently, a smaller value of slope and ambient pressure would be obtained. Conversely, the R factor values used to process the gauge pressures entering ram would be too small. The subsequent averaging of the two pressures would have the effect of compensating for the aspect error. The same may be said of hysteresis effects present in the gauge response, where slight differences in response can occur depending upon whether the internal gauge pressure is increasing or decreasing. As approximately the same pressure region is being covered during the entering and leaving phases of the spin cycle, the hysteresis effects will also be reduced by the averaging process.

7. DATA RESULTS

Data shown in Appendices A and B were obtained during the period from 5 November 1974 to 17 January 1975. The 250 orbits shown are not all inclusive; additional orbits from this period are awaiting processing, and others require reworking to remove excessive noise. The orbits presented here, however, are a representative sample of the data obtained. Shown in Appendices A and B are two sets of density plots and a chart of satellite positional data. Figure A1 shows the satellite position in terms of perigee location where the local time, latitude, and altitude are given as a function of time and revolution number. In Appendix A, plots of density (gm/cc) vs universal time are shown. The circles are values of density obtained from gauge measurements, and the crosses are the appropriate Jacchia 71 model values (calculated under the same conditions as the measurements). In the upper portion of the same plots, the crosses denote the ratios of the measured densities to the J71 model values. The shade-sun nomenclature shown in the legend represents the time (U. T.) when the satellite was in darkness and sunlight, respectively. Other designations shown in the ordinates, abscissa, and legend are self-explanatory.

The ratios of measured/model density values are generally higher than unity. This is partially due to the method of processing gauge pressures wherein the sensitivity factor for nitrogen gas was used and, therefore, the results are given in terms of equivalent nitrogen pressures that have subsequently been converted to mass densities. As the atmosphere consists of a mixture of gases, the sensitivity factors for the individual gas species should properly be included in the pressure

conversion process. However, to accomplish this the relative concentrations of each gas specie must be determined. Hence, for the purposes of this report, such processing was not attempted as it was felt that the use of equivalent nitrogen pressures provided a more consistent data base that can later be modified to accommodate compositional data. The relative sensitivity factor for molecular oxygen ($R = S_{O_2}/S_{N_2}$) is 1.09. Thus, if the atmosphere were total oxygen, the pressures would be correspondingly reduced by 9 percent. Gauge sensitivity factors and their application will be discussed in more detail in a second report covering the data obtained during the period from February to May 1975.

In the altitude plots given in Appendix B, the circle and cross symbols denote gauge measurements, where the circles are for measurements performed when the satellite descended in altitude towards perigee and the crosses are for measurements performed when the satellite ascended in altitude away from perigee. The solid lines shown are least squares fits through the data points. In some altitude plots further processing is required to remove noise values. It is readily seen from examination of the density vs time plots which values are noise, and reference to the corresponding altitude plot will show the distortion the noise value has upon the least squares fit. At higher altitudes the downleg (circles) and upleg (crosses) profiles diverge. A major portion of this divergence is due to the spatial separation of the measurements. Perigee is initially located at midlatitudes in the northern hemisphere and precessing northward to the pole. The downleg measurements are performed at high northern latitudes, whereas the upleg measurements are taken at middle and equatorial latitudes nearer to the sub-solar point. The upleg measurements therefore reflect the higher densities associated with the larger temperatures due to the proximity of the solar bulge.

References

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Appendix A

Plots of Density vs U.T.

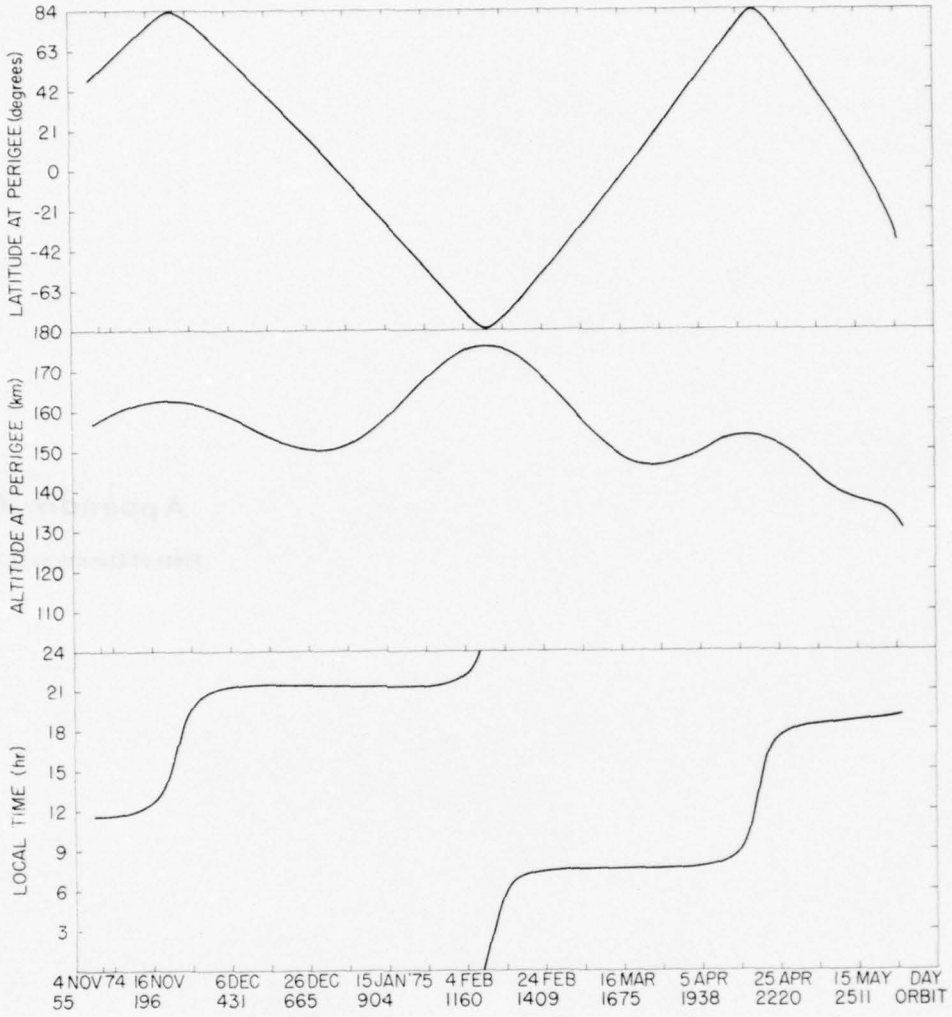
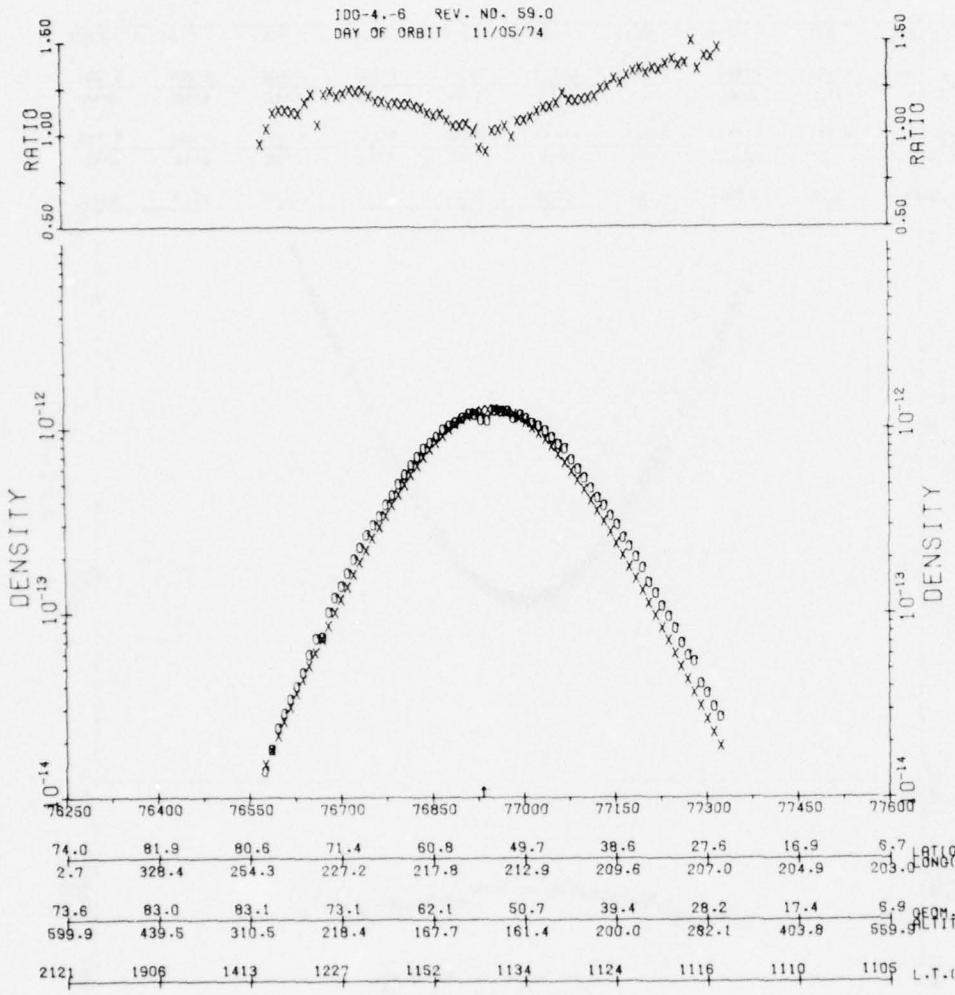


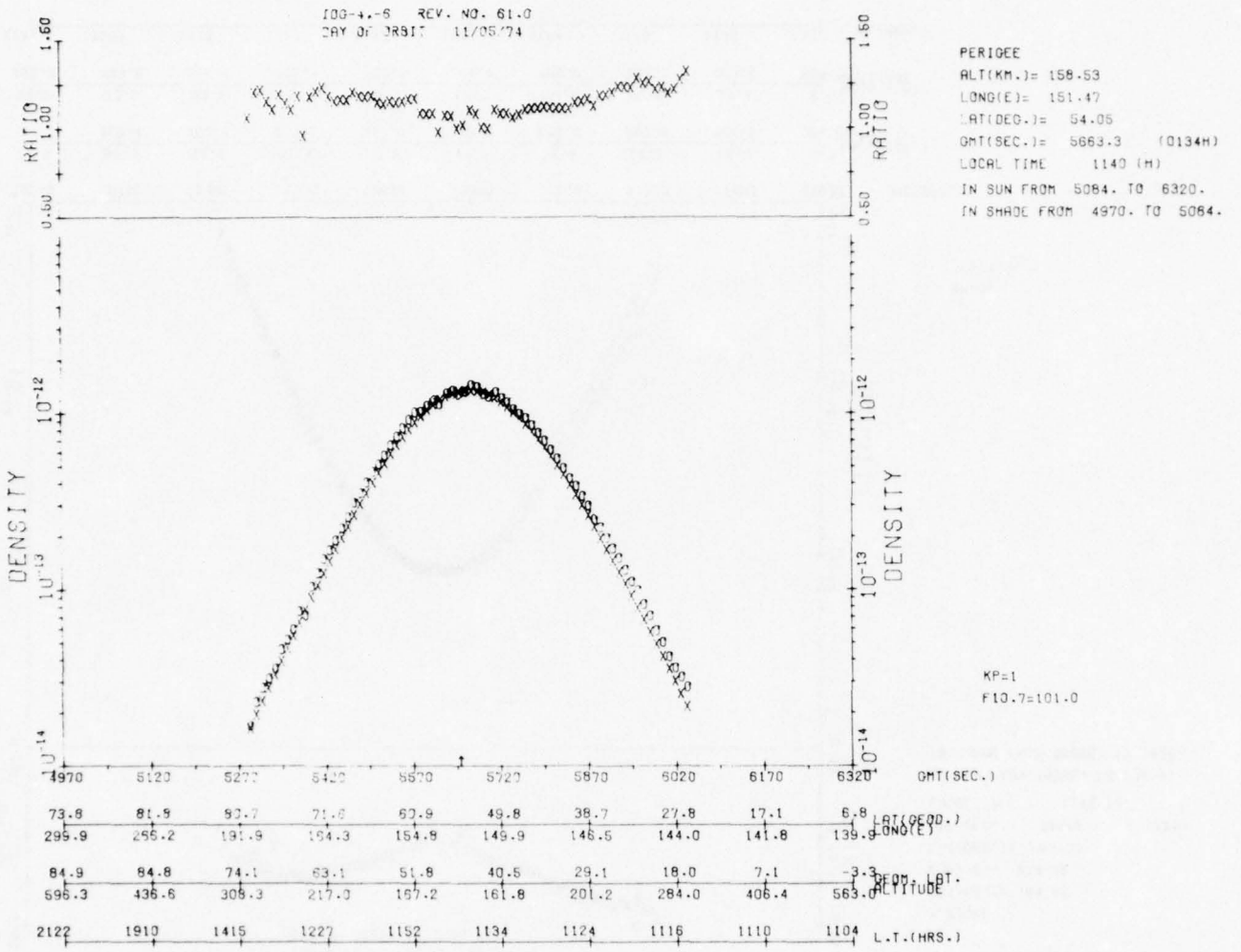
Figure A1. Satellite Location Diagram

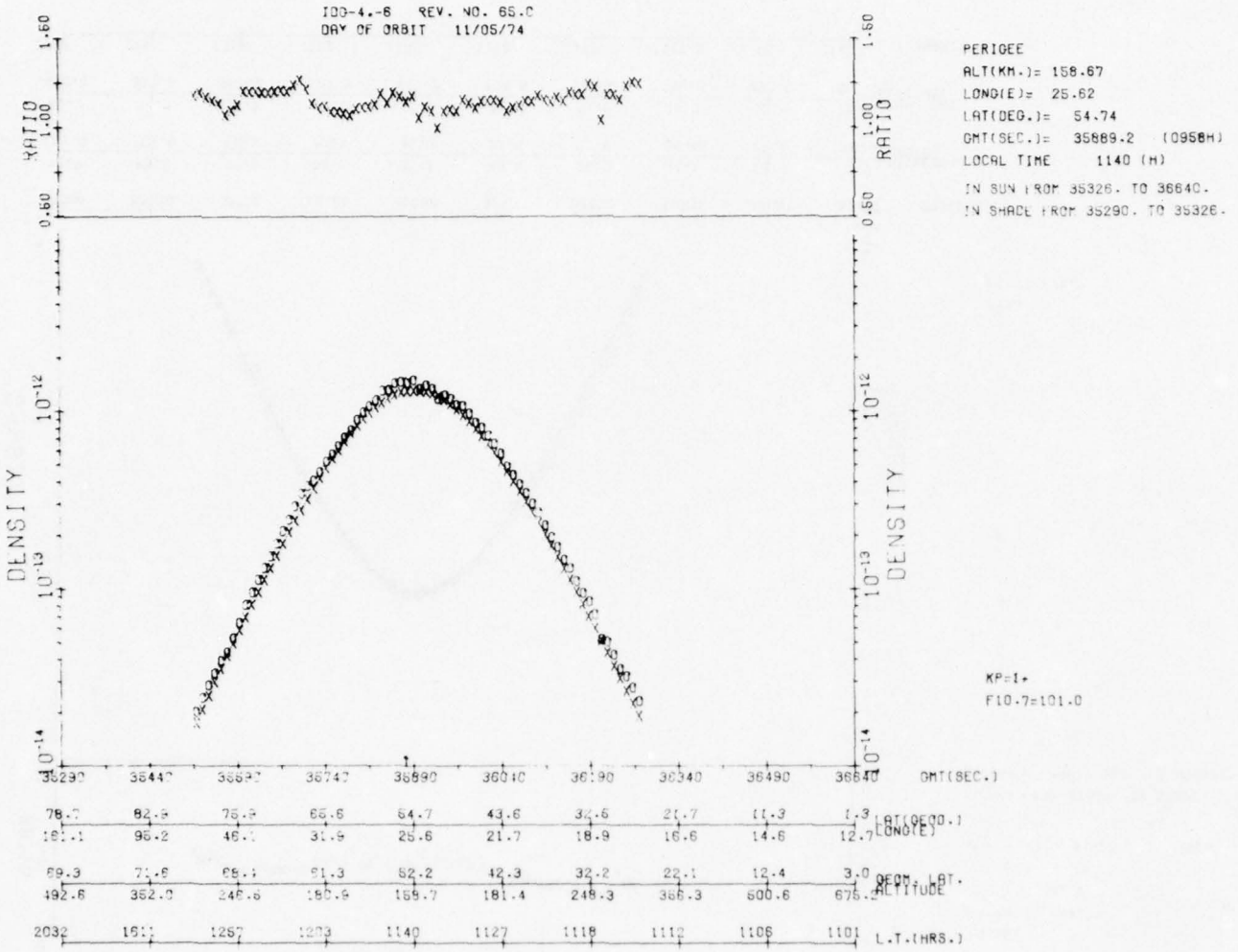


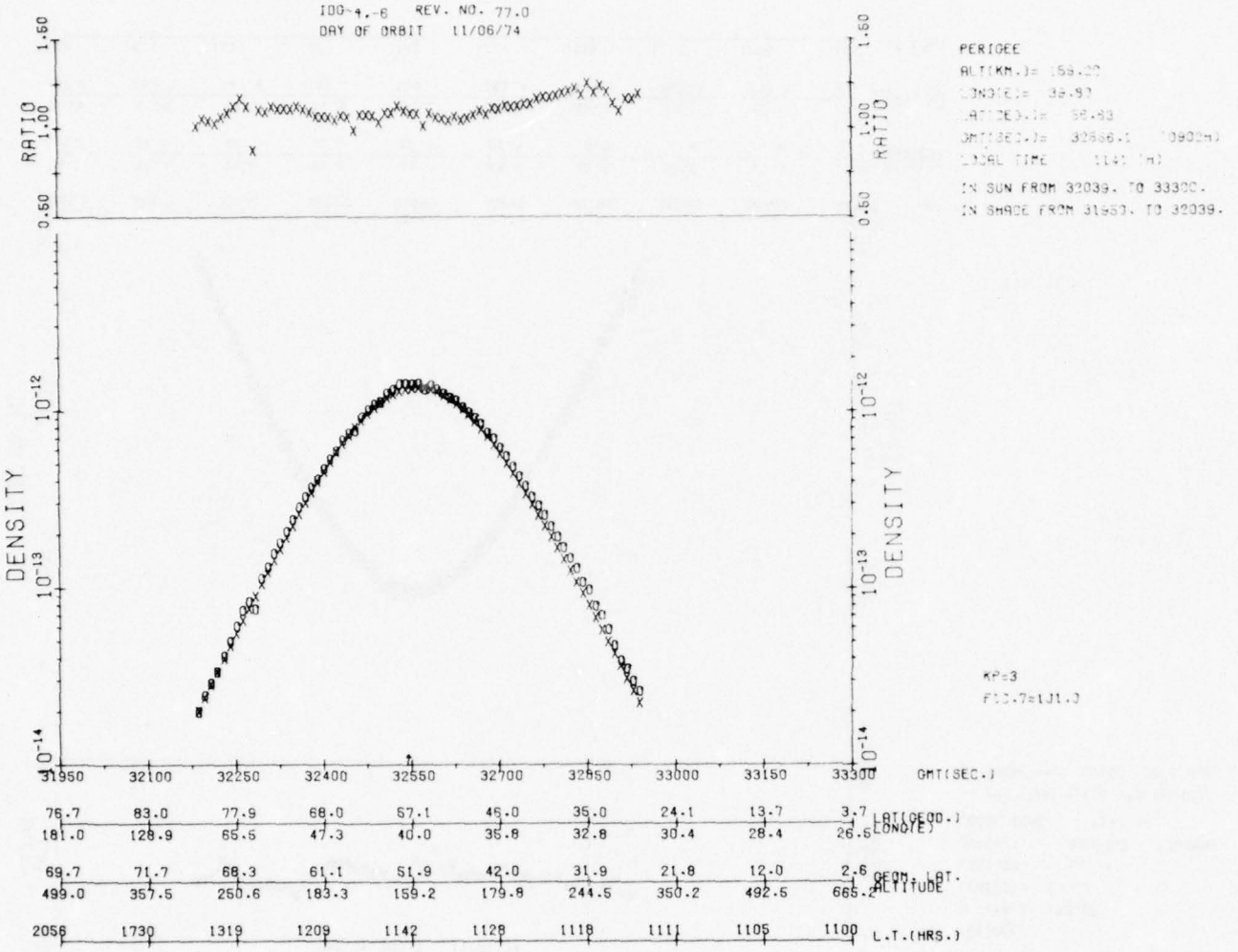
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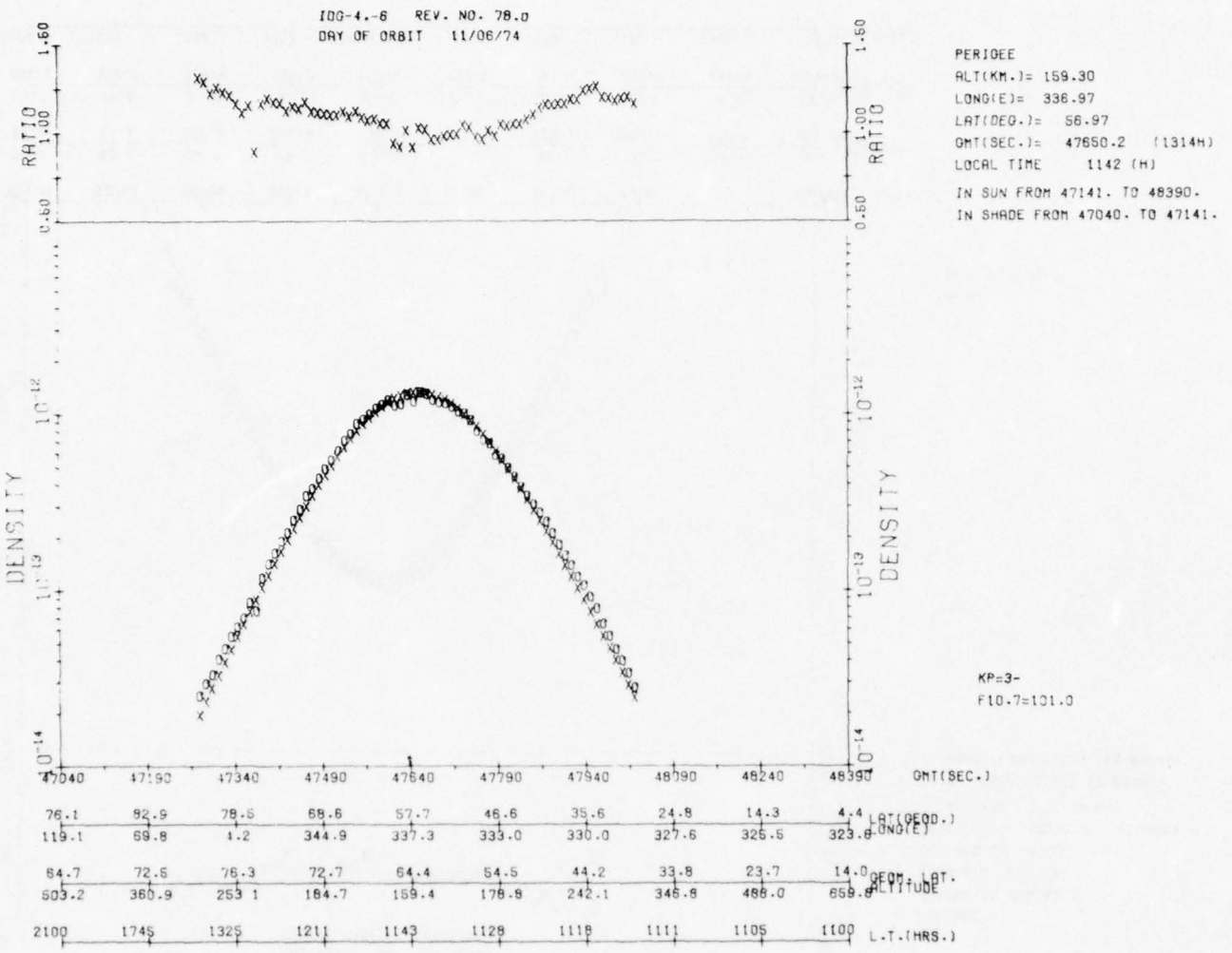
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492.6 352.0 246.6 180.9 159.7 181.4 248.3 366.3 600.6 675.5 ALTITUDE
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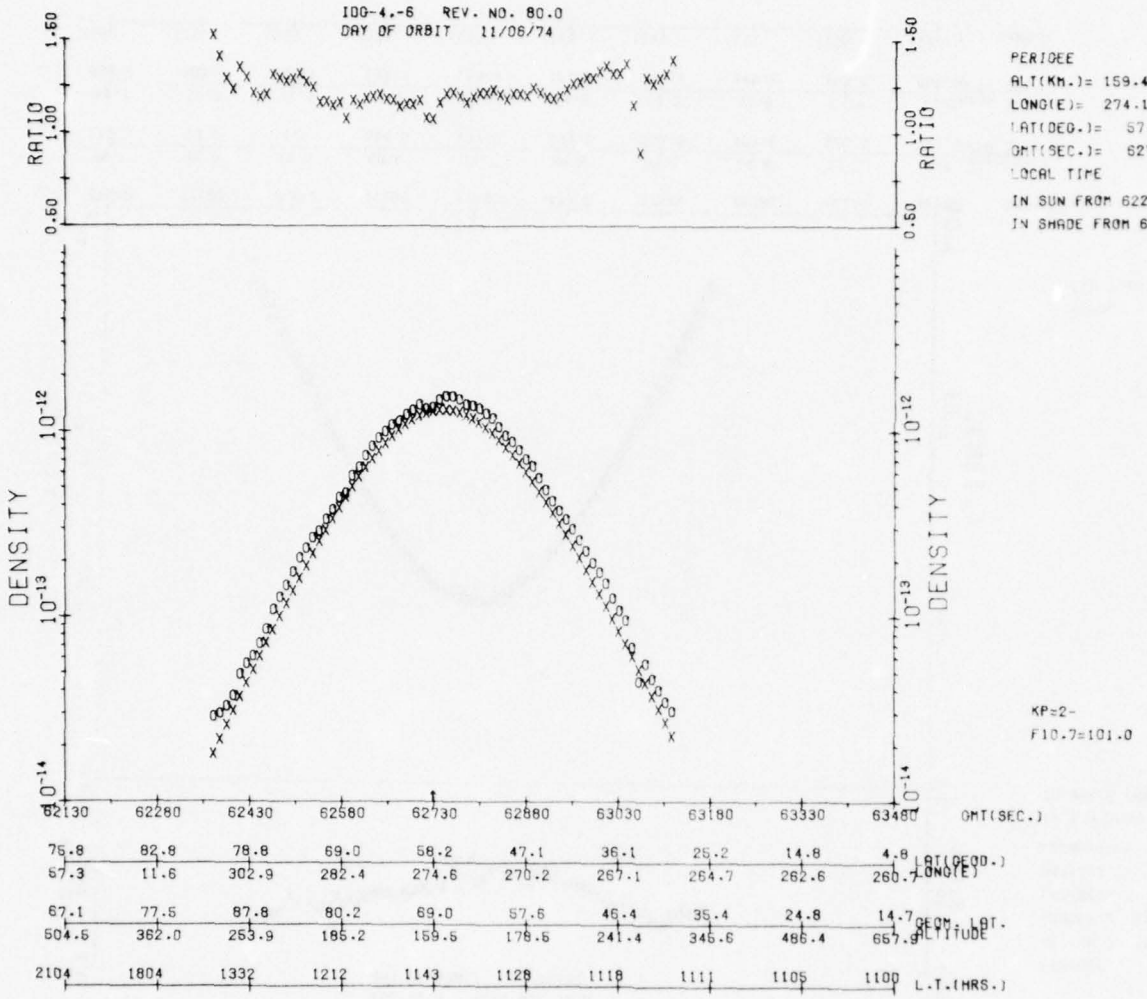

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LONG(E)
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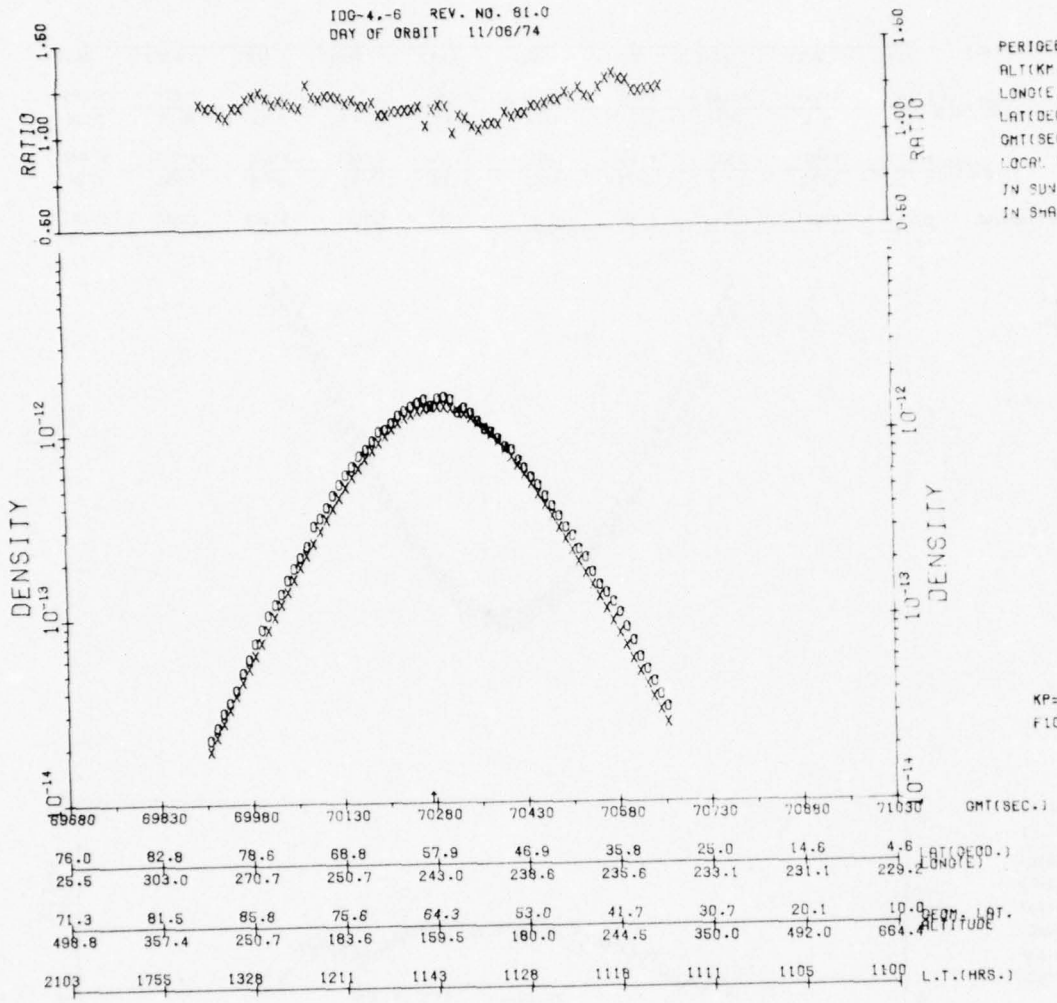
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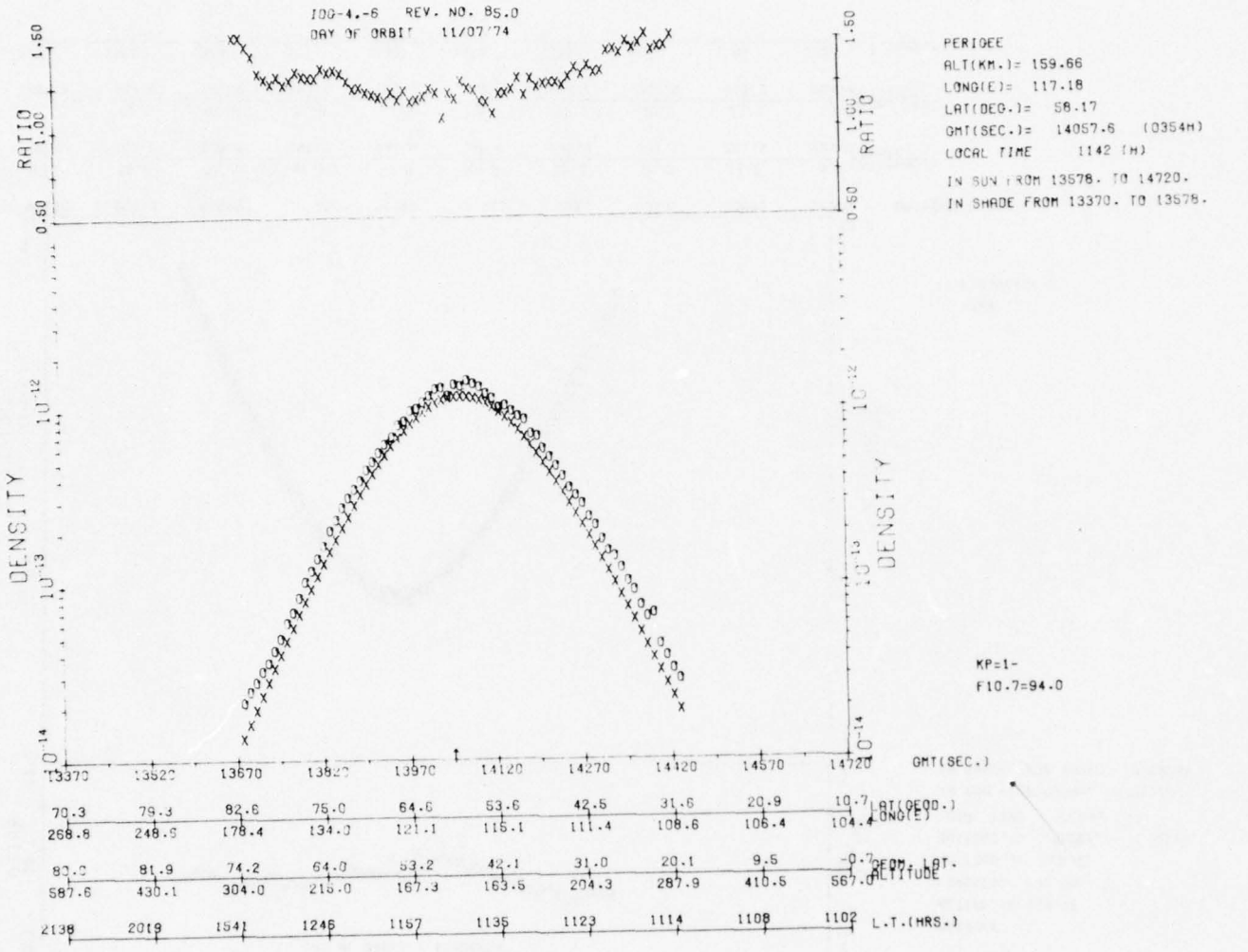
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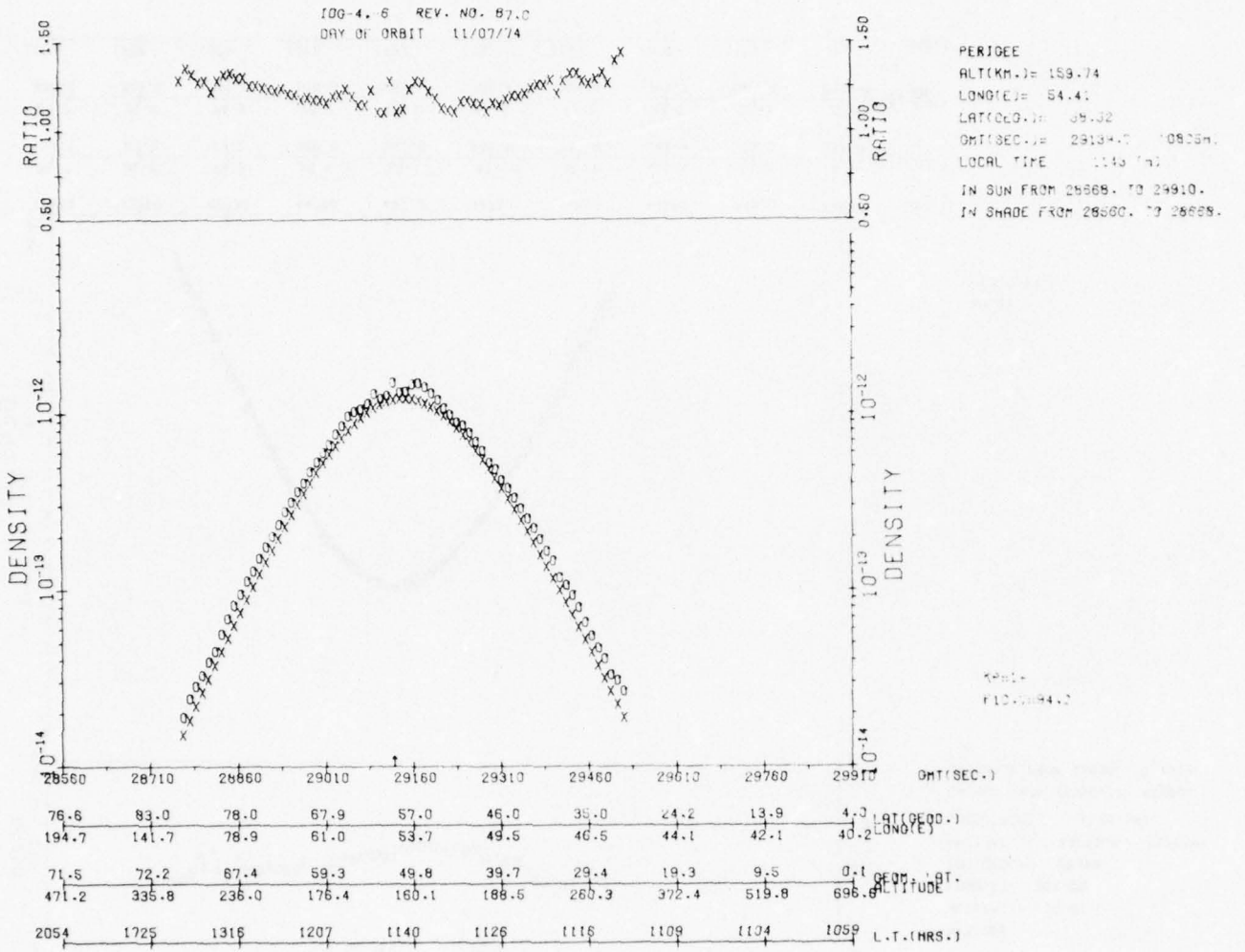


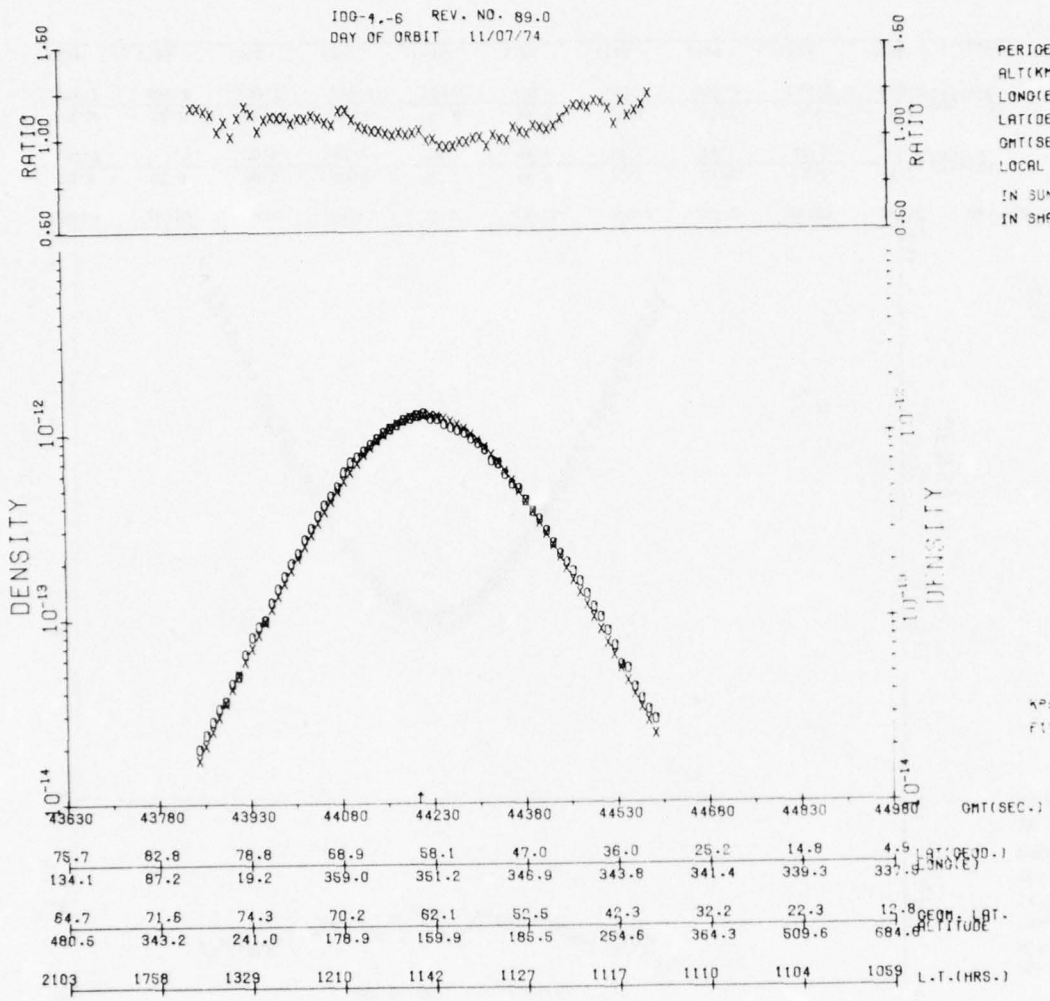
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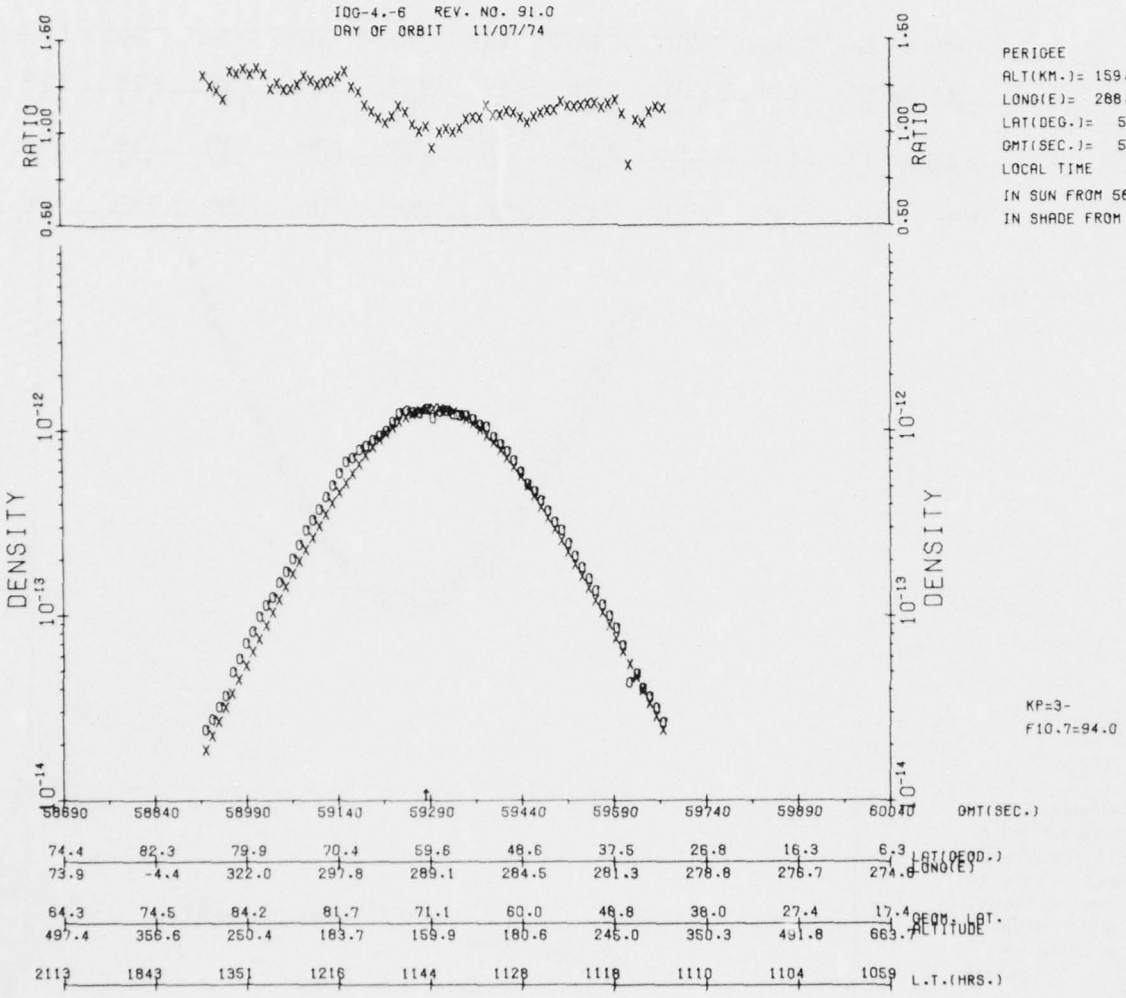

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471.2 335.8 236.0 176.4 160.1 188.5 260.3 372.4 519.8 696.8 ALTITUDE
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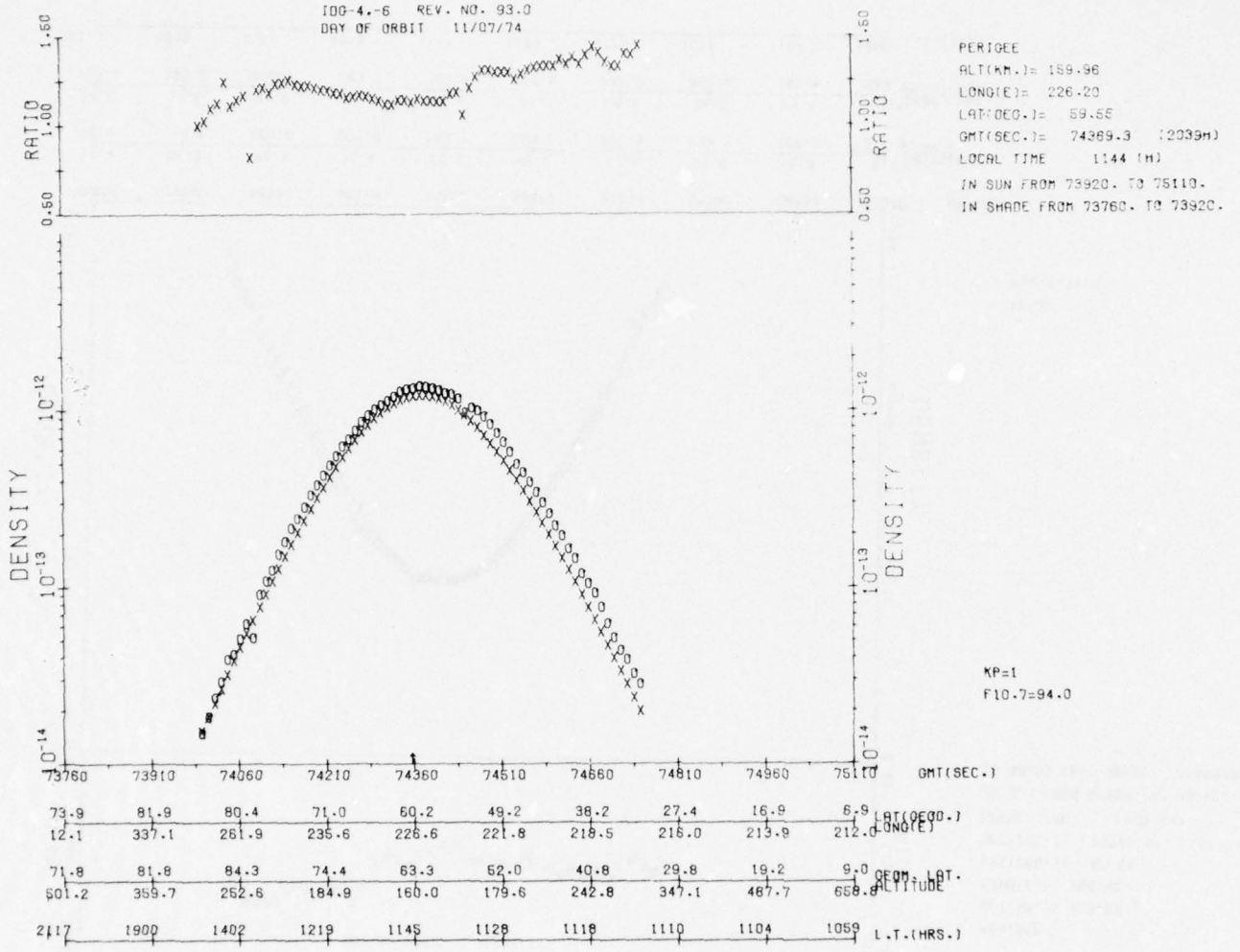
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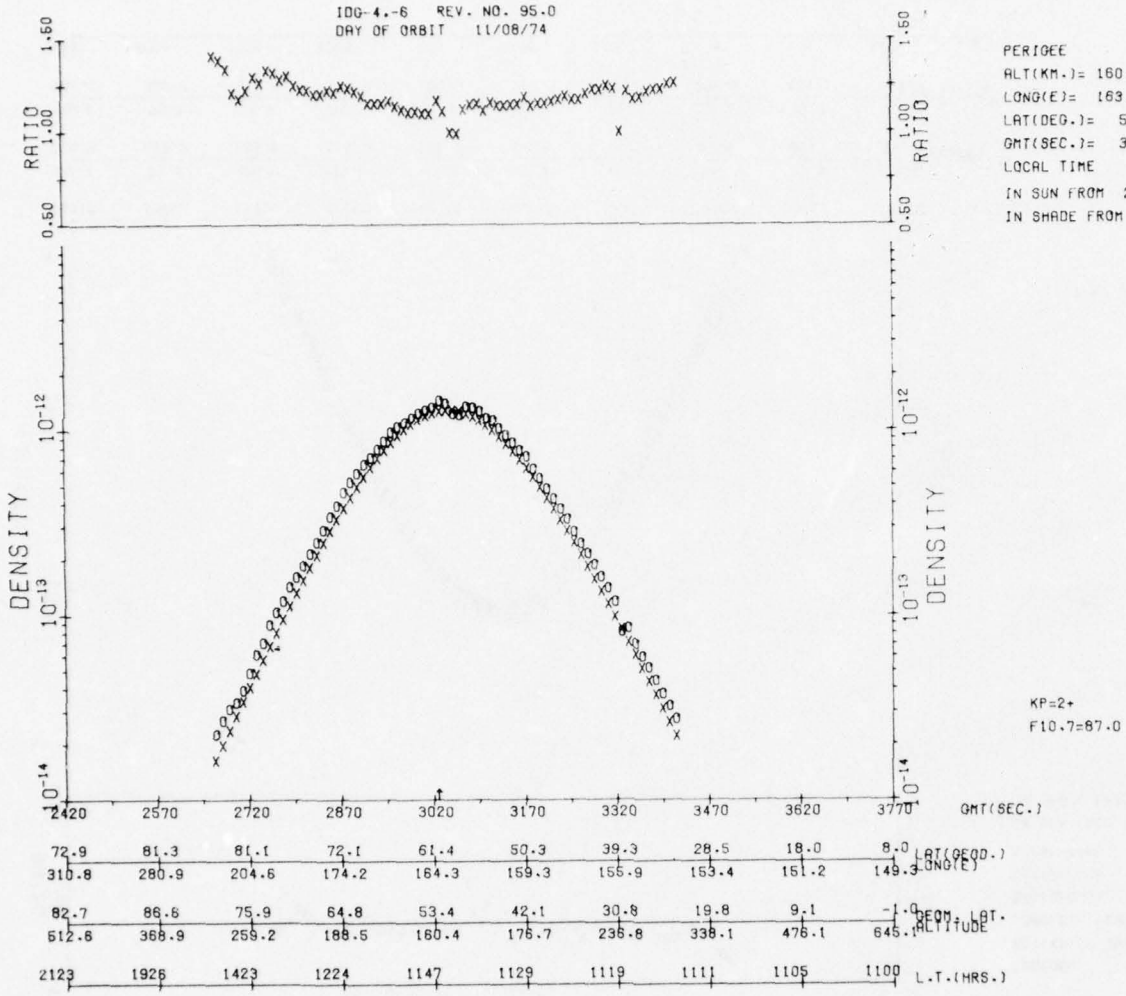
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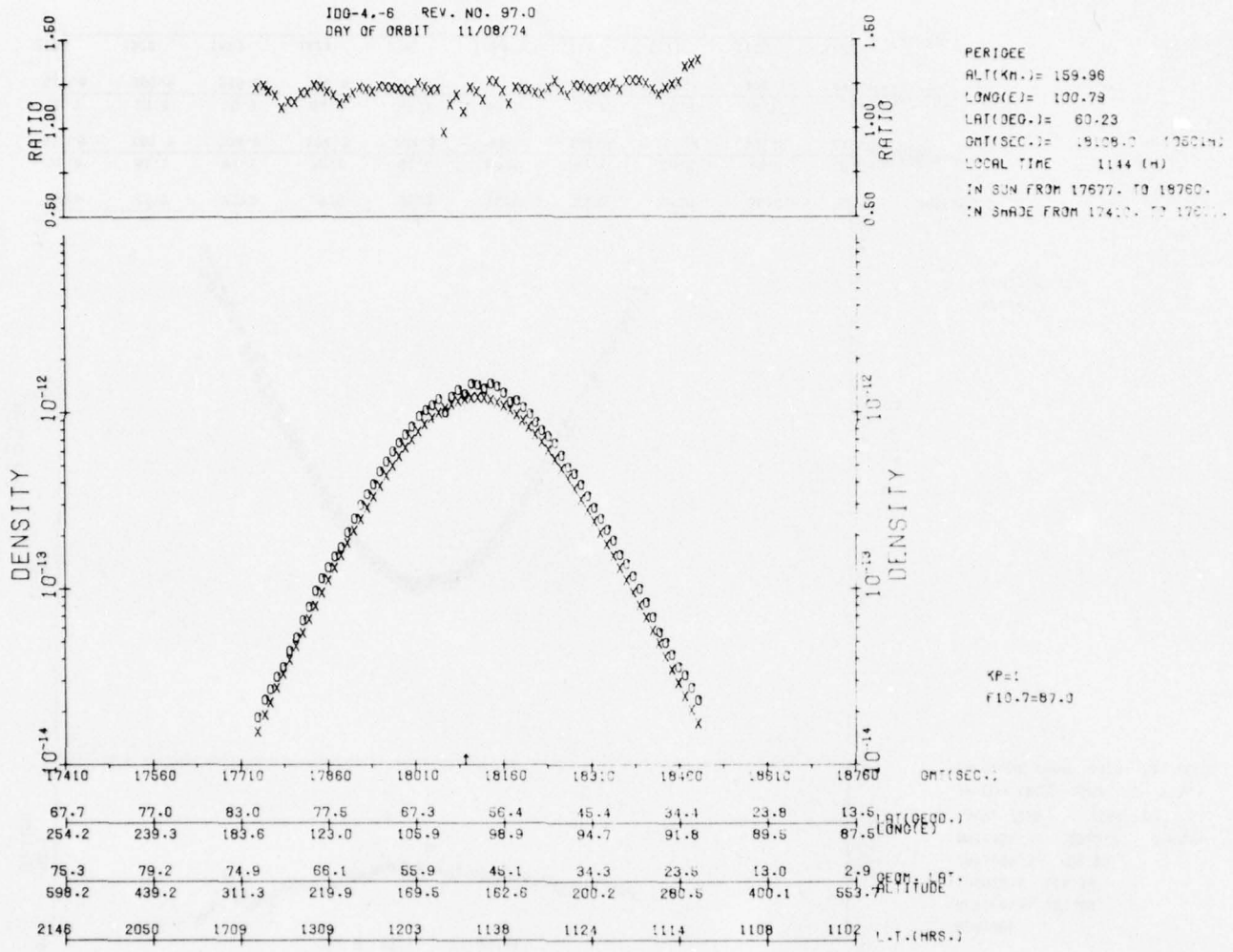
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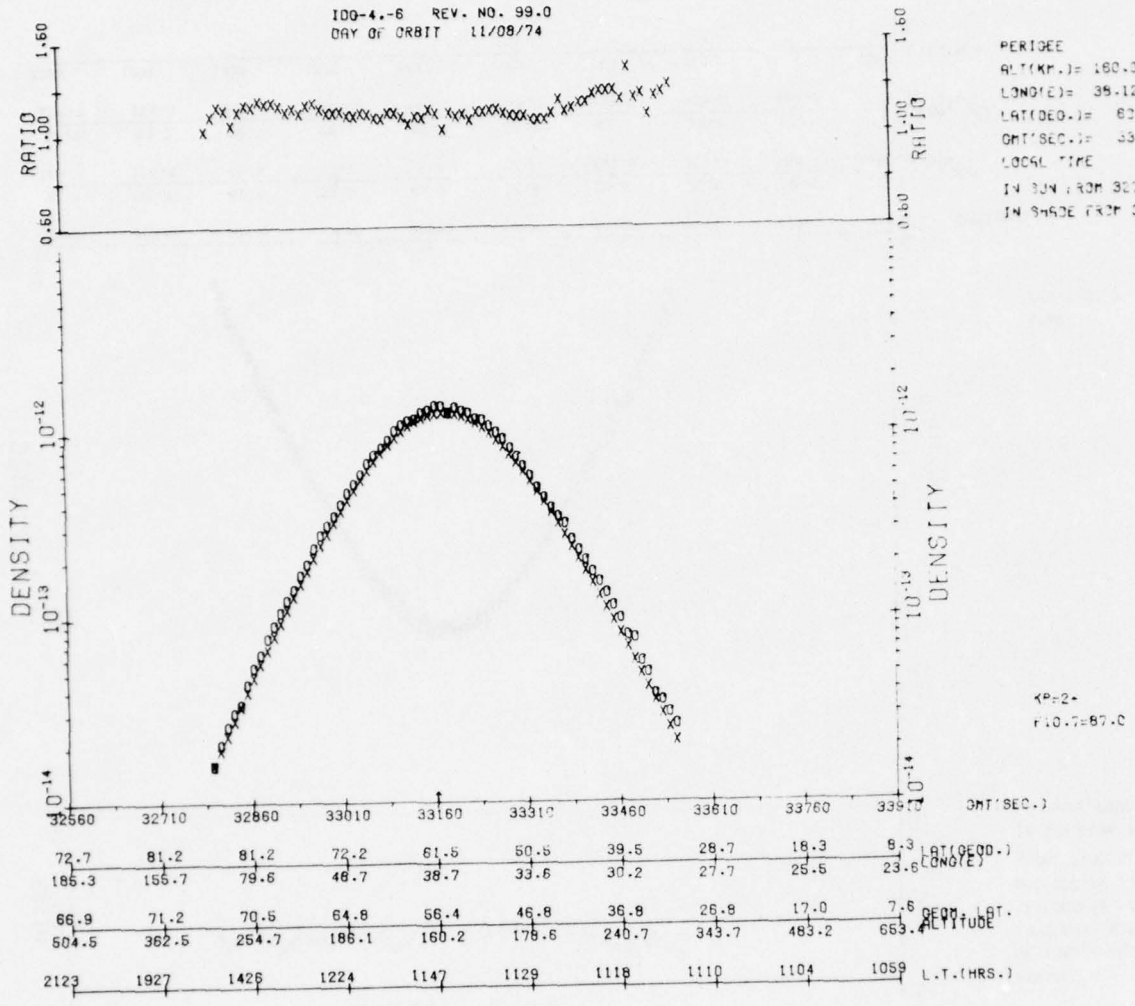
KP=1
F10.7=94.0

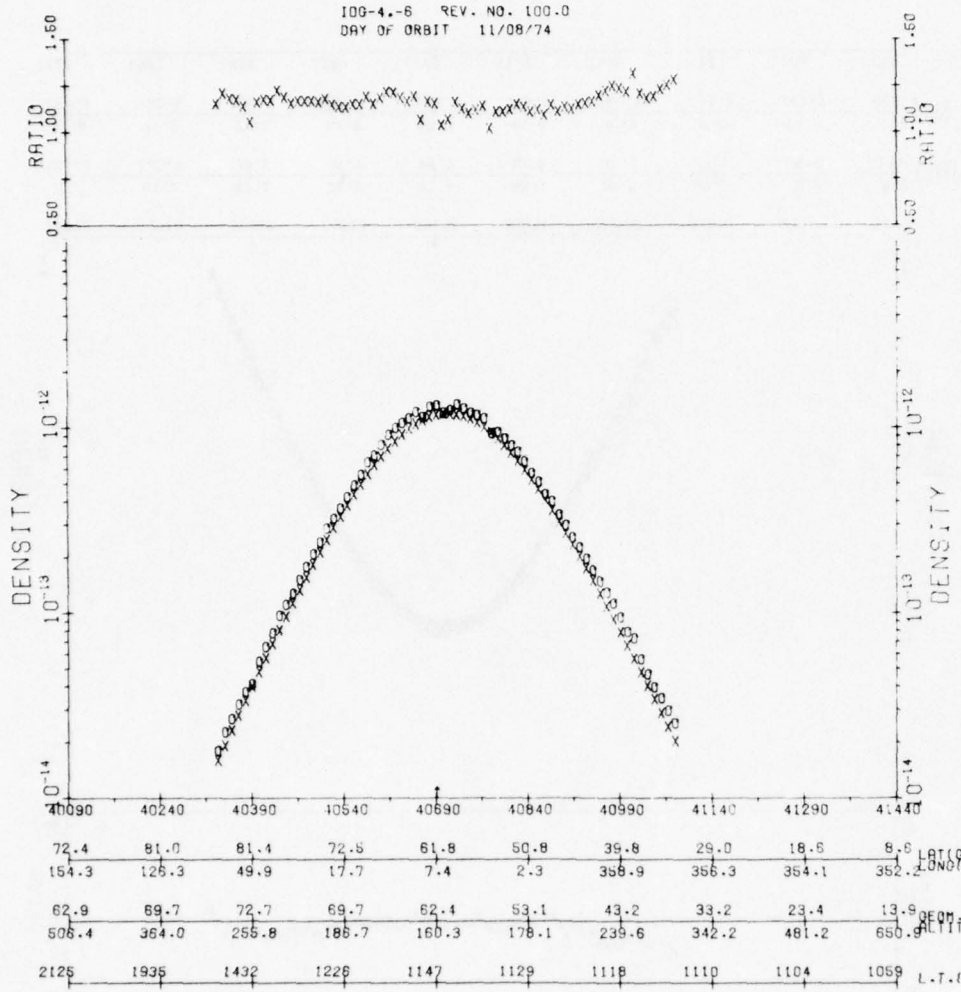


PERIGEE
ALT(KM.)= 160.03
LONG(E)= 163.49
LAT(DEG.)= 59.89
GMT(SEC.)= 3040.3 (0050H)
LOCAL TIME 1144 (H)
IN SUN FROM 2602. TO 3770.
IN SHADE FROM 2420. TO 2602.

KP=2+
F10.7=87.0


IDD-4,-6 REV. NO. 97.0
DAY OF ORBIT 11/08/74
RATIO
1.60
1.00
0.60
DENSITY
10^{-12}
10^{-13}
10^{-14}
17410
17560
17710
17860
18010
18160
18310
18460
18610
18760
GMT(SEC.)
67.7 77.0 83.0 77.5 67.3 56.4 45.4 34.4 23.8 13.5 LAT(DEGD.)
254.2 239.3 183.6 123.0 105.9 98.9 94.7 91.8 89.5 87.5 LONG(E)
75.3 79.2 74.9 66.1 55.9 45.1 34.3 23.5 13.0 2.9 GEOM. LAT.
598.2 439.2 311.3 219.9 169.5 162.6 200.2 280.5 400.1 553.7 ALTITUDE
2146 2050 1709 1309 1203 1138 1124 1114 1108 1102 L.T.(HRS.)
PERIGEE
ALT(KM.)= 159.96
LONG(E)= 100.79
LAT(DEG.)= 60.23
GMT(SEC.)= 18108.0 (05H)
LOCAL TIME 1144 (H)
IN SUN FROM 17677. TO 18760.
IN SHADE FROM 17410. TO 17677.
KP=1
F10.7=87.3

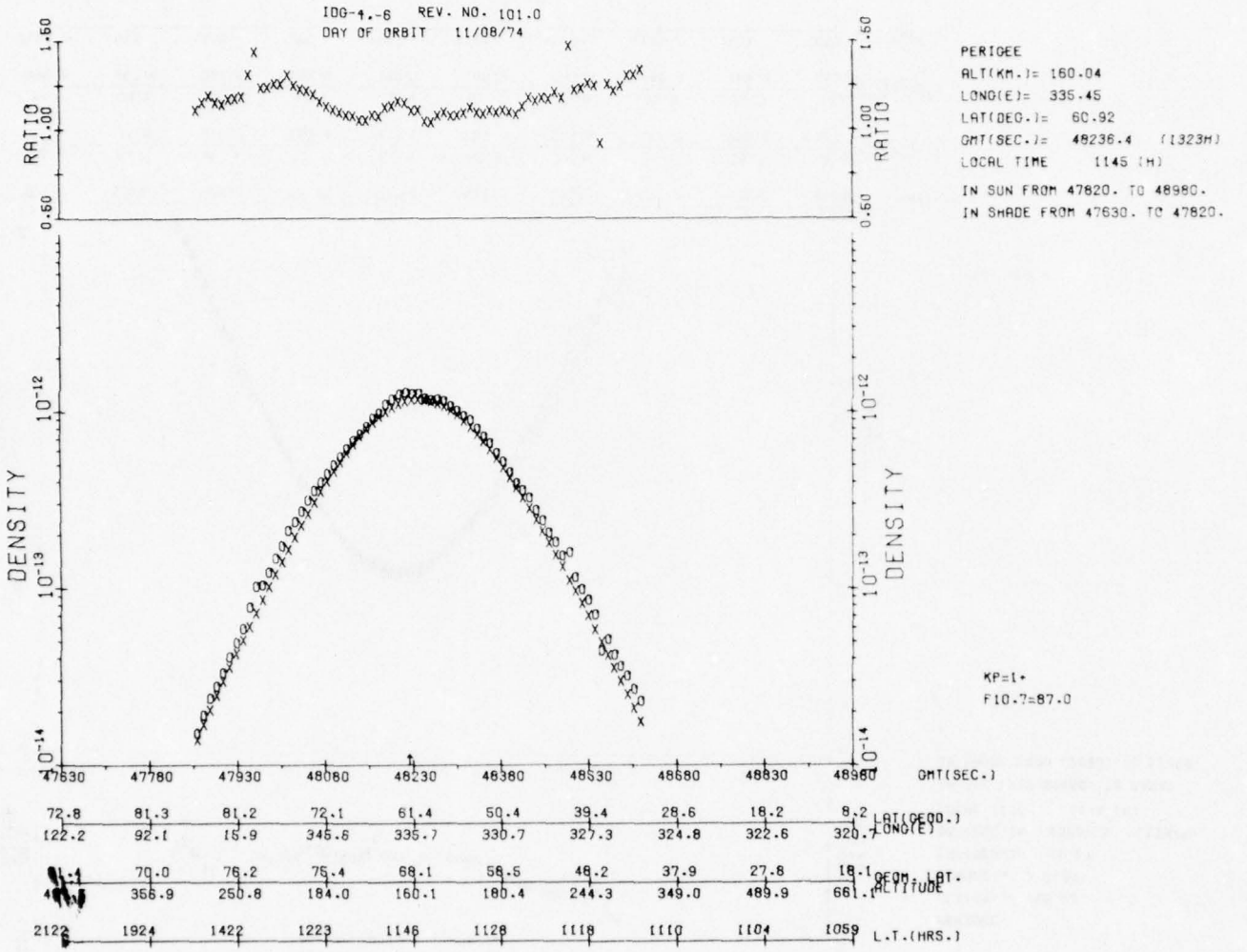

IDO-4.-6 REV. NO. 99.0
DAY OF ORBIT 11/08/74
RATIO
1.60
1.00
0.60
DENSITY
10^{-12}
10^{-13}
10^{-14}
PERIGEE
ALT(KM.)= 180.32
LONG(E)= 35.12
LAT(DEG.)= 62.69
GMT(SEC.)= 33173.2 (0812hr)
LOCAL TIME 1148 (hr)
IN SUN FROM 32748. TO 33810.
IN SHADE FROM 32560. TO 32748.
KP=2+
F10.7=87.0
32560 32710 32860 33010 33160 33310 33460 33610 33760 33910 GMT(SEC.)
72.7 81.2 81.2 72.2 61.5 50.5 39.5 28.7 18.3 8.3 LAT(DEGD.)
185.3 155.7 79.6 48.7 38.7 33.6 30.2 27.7 25.5 23.6 LONG(E)
66.9 71.2 70.5 64.8 56.4 46.8 36.8 26.8 17.0 7.6 DEGR. LAT.
504.5 362.5 254.7 186.1 160.2 178.6 240.7 343.7 483.2 653.4 ALTITUDE
2123 1927 1426 1224 1147 1129 1118 1110 1104 1059 L.T.(HRS.)

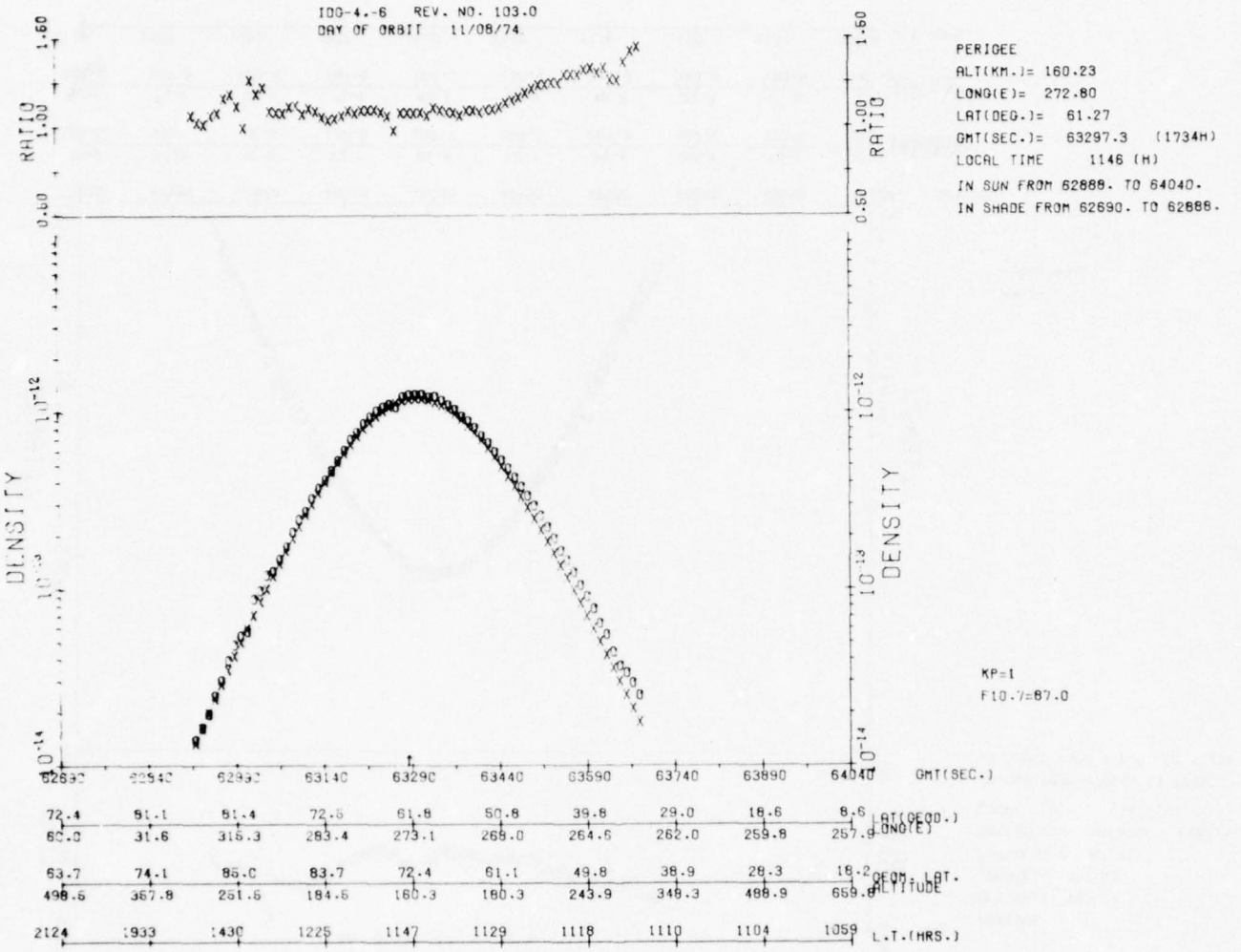


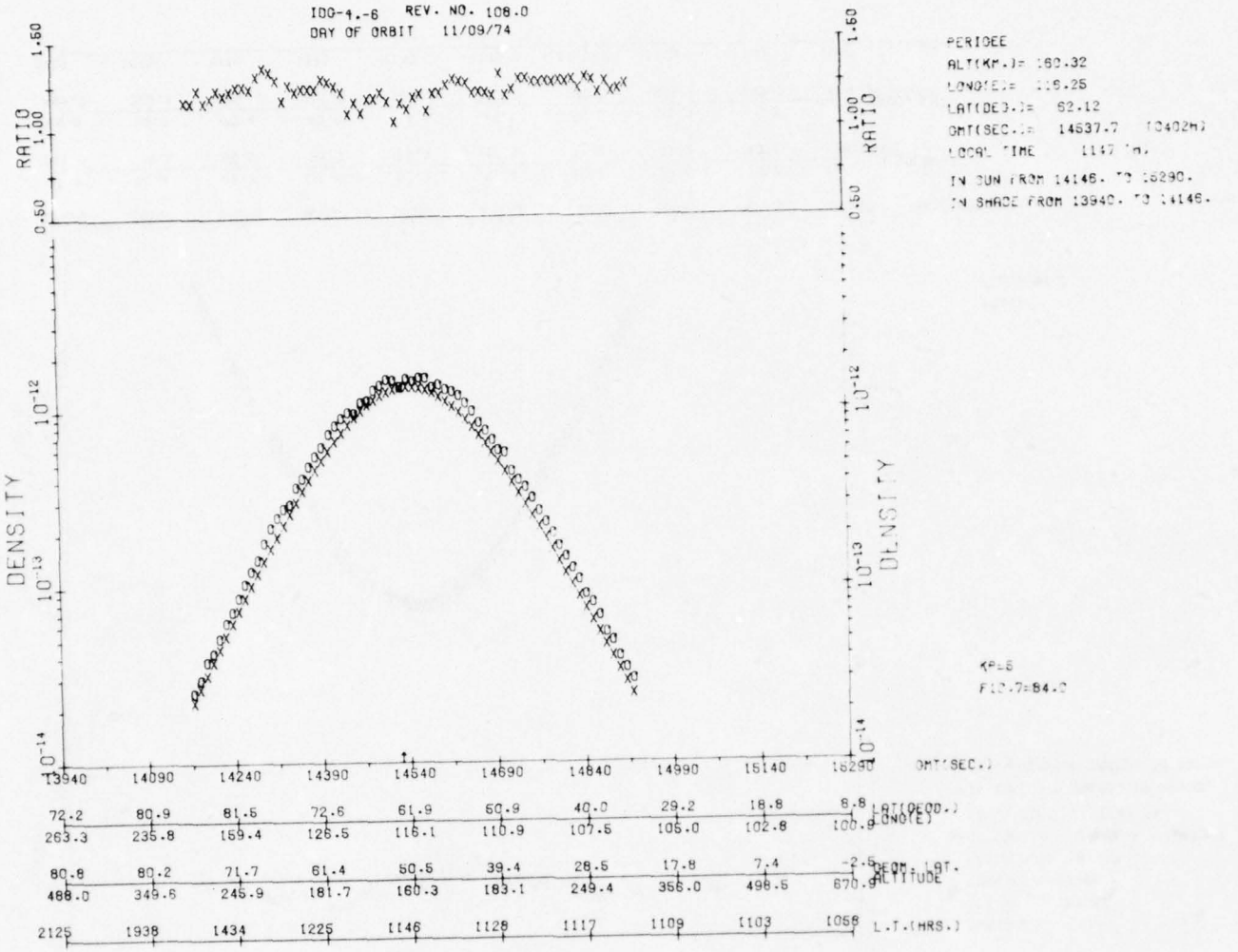
PERIGEE
ALT(KM.)= 160.07
LONG(E)= 6.80
LAT(DEG.)= 60.75
GMT(SEC.)= 40704.9 (1118H)
LOCAL TIME 1145 (H)

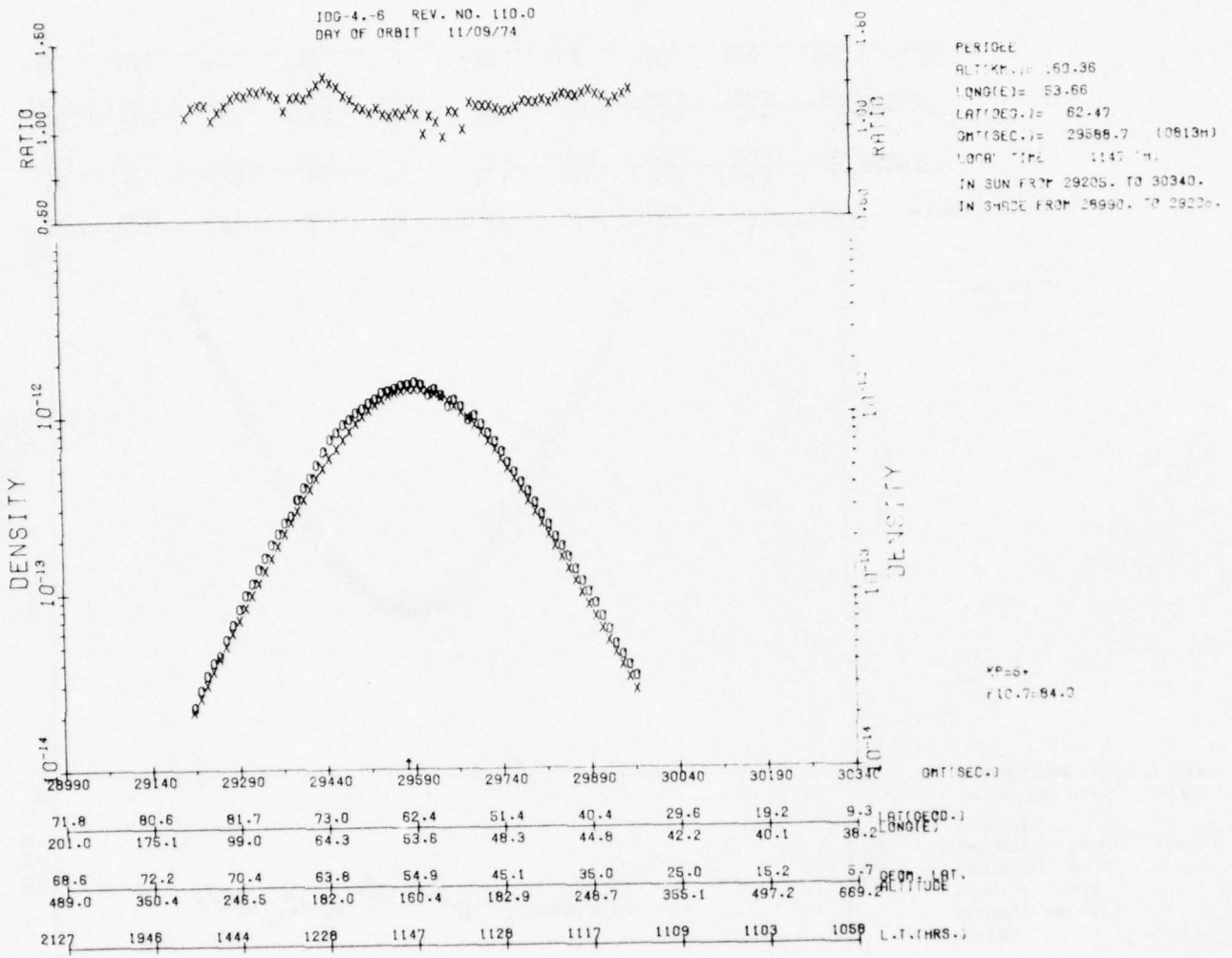
IN SUN FROM 40285. TO 41440.
IN SHADE FROM 40090. TO 40285.

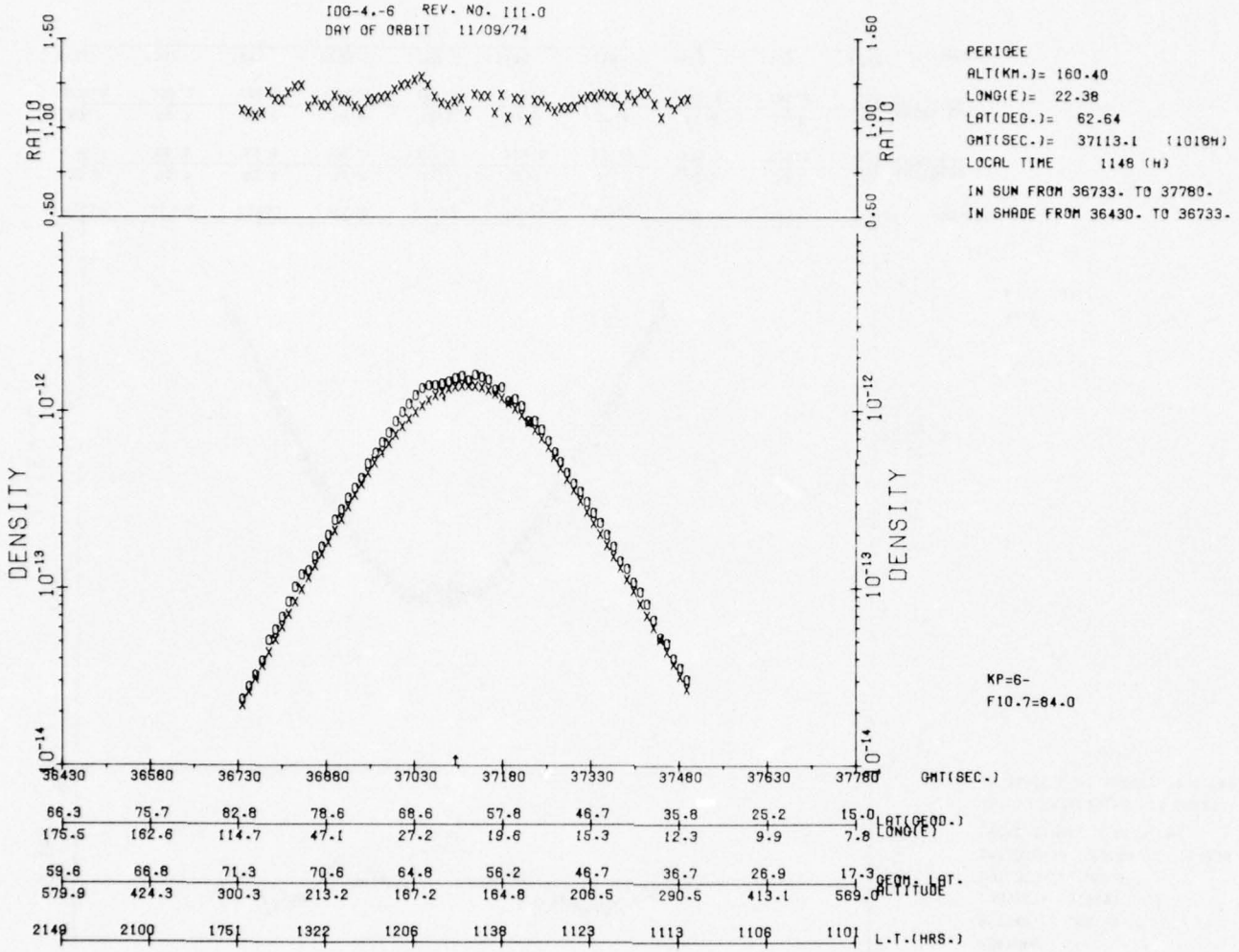
KP=2-
F10.7=87.0


IDG-1,-6 REV. NO. 101.0
DAY OF ORBIT 11/08/74
RATIO
1.60
1.00
0.60
DENSITY
10^{-12}
10^{-13}
10^{-14}
PERIGEE
ALT(KM.)= 160.04
LONG(E)= 335.45
LAT(DEG.)= 60.92
GMT(SEC.)= 48236.4 (1323H)
LOCAL TIME 1145 (H)
IN SUN FROM 47820. TO 48980.
IN SHADE FROM 47630. TO 47820.
KP=1+
F10.7=87.0
47630 47780 47930 48080 48230 48380 48530 48680 48830 48980 GMT(SEC.)
72.8 81.3 81.2 72.1 61.4 50.4 39.4 28.6 18.2 8.2 LAT(GEOD.)
122.2 92.1 15.9 345.8 335.7 330.7 327.3 324.8 322.6 320.7 LONG(E)
70.0 76.2 75.4 68.1 58.5 48.2 37.9 27.8 18.1 GEOM. LAT.
356.9 250.8 184.0 160.1 160.4 244.3 349.0 489.9 661.1 ALTITUDE
2122 1924 1422 1223 1146 1128 1118 1110 1104 1059 L.T.(HRS.)


IDG-4.-6 REV. NO. 103.0
DAY OF ORBIT 11/08/74
RATIO
1.60
1.00
0.60
DENSITY
10^{-12}
10^{-13}
10^{-14}
PERIGEE
ALT(KM.)= 160.23
LONG(E)= 272.80
LAT(DEG.)= 61.27
GMT(SEC.)= 63297.3 (1734H)
LOCAL TIME 1146 (H)
IN SUN FROM 62888. TO 64040.
IN SHADE FROM 62690. TO 62888.
KP=1
F10.7=87.0
62840 62940 63040 63140 63290 63440 63590 63740 63890 64040 GMT(SEC.)
72.4 61.1 61.4 72.5 61.8 50.8 39.8 29.0 18.6 8.6 LAT(DEGD.)
60.0 31.6 315.3 283.4 273.1 268.0 264.6 262.0 259.8 257.9 LONG(E)
63.7 74.1 86.0 83.7 72.4 61.1 49.8 38.9 28.3 18.2 GEOM. LAT.
498.6 367.8 251.6 184.6 160.3 180.3 243.9 348.3 488.9 659.8 ALTITUDE
2124 1933 1430 1225 1147 1129 1118 1110 1104 1059 L.T.(HRS.)


IDG-4.-6 REV. NO. 108.0
DAY OF ORBIT 11/09/74
RATIO
1.60
1.00
0.60
DENSITY
10^{-12}
10^{-13}
10^{-14}
PERIGEE
ALT(KM.)= 160.32
LONG(E.)= 119.25
LAT(DEG.)= 62.12
GMT(SEC.)= 14637.7 (0402H)
LOCAL TIME 1147 HR.
IN SUN FROM 14146. TO 16290.
IN SHADE FROM 13940. TO 14146.
KP=5
F10.7=84.2
13940 14090 14240 14390 14540 14690 14840 14990 15140 15290 GMT(SEC.)
72.2 80.9 81.6 72.6 61.9 50.9 40.0 29.2 18.8 8.8 LAT(DEGD.)
263.3 235.8 159.4 126.5 116.1 110.9 107.5 105.0 102.8 100.8 LONG(E)
80.8 80.2 71.7 61.4 50.5 39.4 28.5 17.8 7.4 -2.6 FROM: LAT.
488.0 349.6 245.9 181.7 160.3 183.1 249.4 356.0 498.5 670.9 ALTITUDE
2125 1938 1434 1225 1146 1128 1117 1109 1103 1058 L.T.(HRS.)

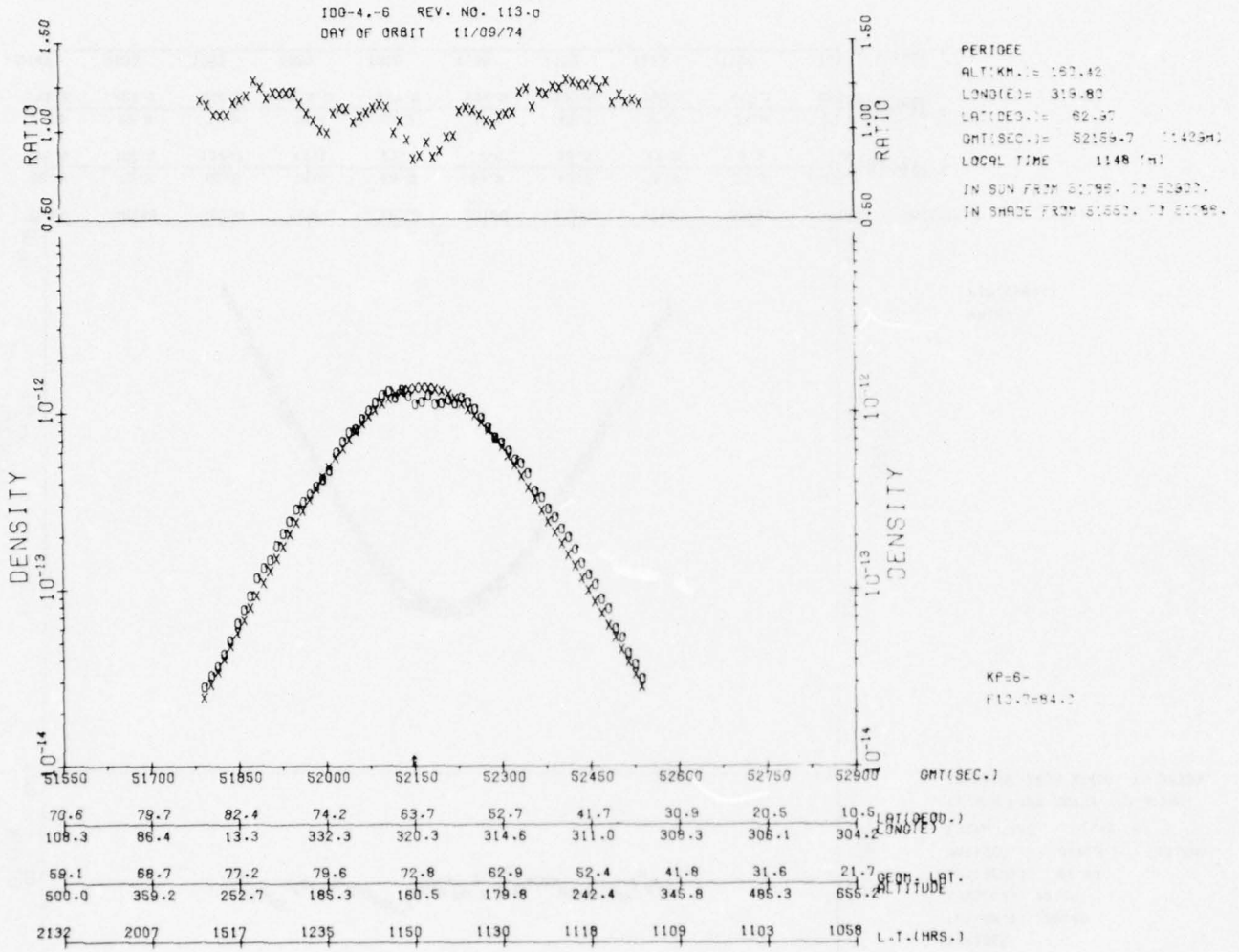

IDG-4.-6 REV. NO. 110.0
DAY OF ORBIT 11/09/74
RATIO
1.60
1.00
0.60
PERIGEE
LONG(E)= 53.66
LAT(DEG.)= 62.47
GMT(SEC.)= 29588.7 (0813H)
IN SUN FROM 29205. TO 30340.
IN SHADE FROM 28990. TO 29205.
DENSITY
10^{-12}
10^{-13}
10^{-14}
KP=5+
FIG.7-84.0
28990 29140 29290 29440 29590 29740 29890 30040 30190 30340 GMT(SEC.)
71.8 80.6 81.7 73.0 62.4 51.4 40.4 29.6 19.2 9.3 LAT(DEGD.)
201.0 175.1 99.0 64.3 53.6 48.3 44.8 42.2 40.1 38.2 LONG(E.)
68.6 72.2 70.4 63.8 54.9 45.1 35.0 25.0 15.2 5.7 GEOM. LAT.
489.0 350.4 246.5 182.0 160.4 182.9 248.7 355.1 497.2 669.2 ALTITUDE
2127 1946 1444 1228 1147 1128 1117 1109 1103 1058 L.T.(HRS.)

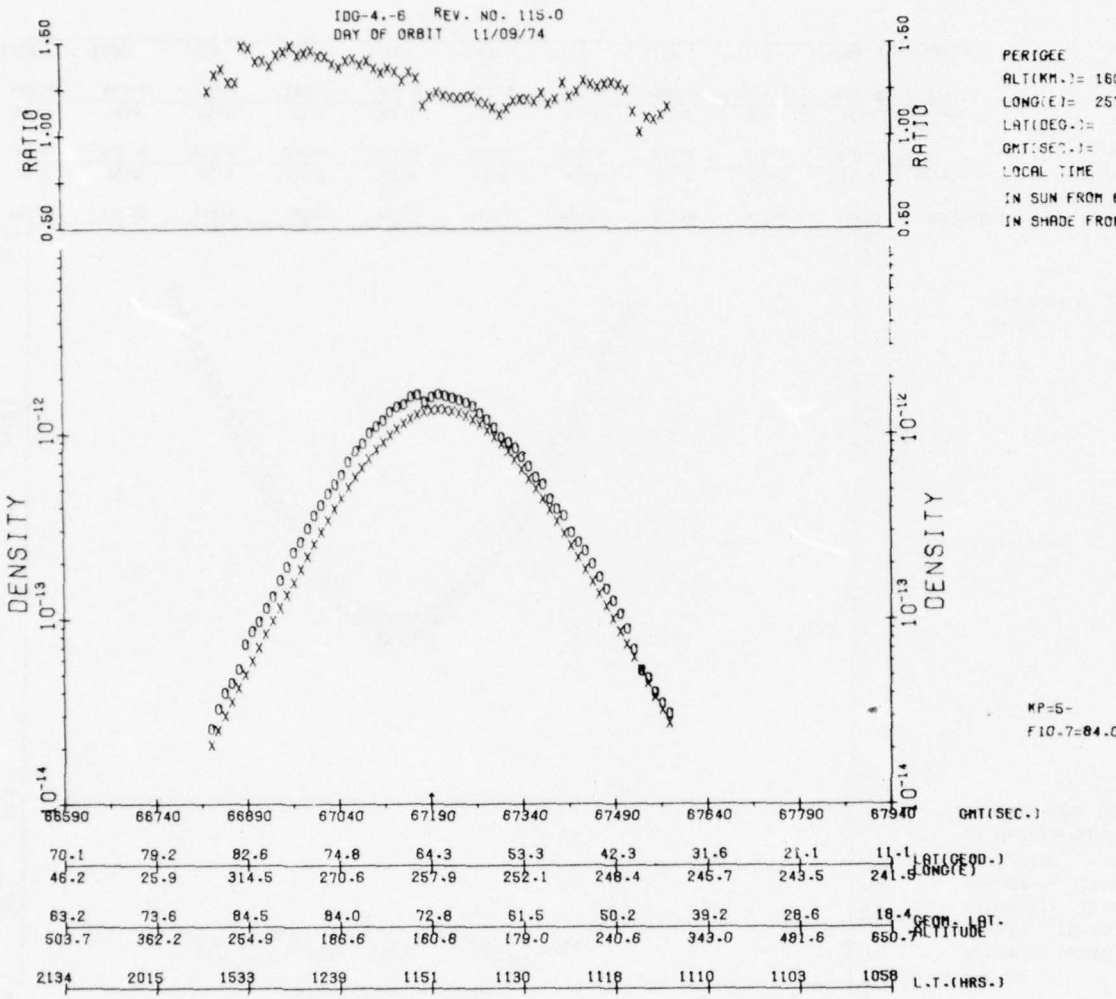


PERIGEE
ALT(KM.)= 160.40
LONG(E)= 22.38
LAT(DEG.)= 62.64
GMT(SEC.)= 37113.1 (1018H)
LOCAL TIME 1148 (H)

IN SUN FROM 36733. TO 37780.
IN SHADE FROM 36430. TO 36733.

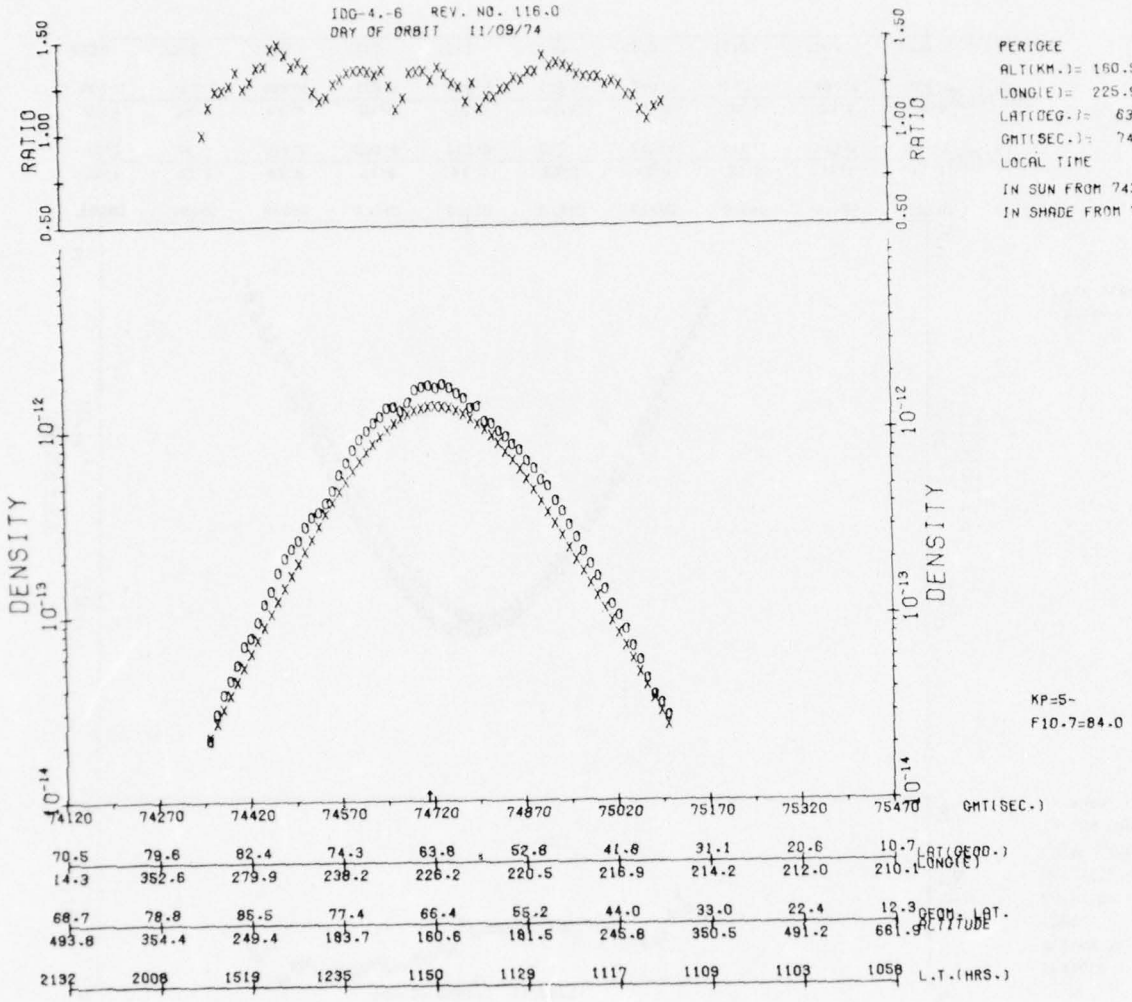
KP=6-
F10.7=84.0


IDG-4,-6 REV. NO. 113.0
DAY OF ORBIT 11/09/74
RATIO
1.60
1.00
0.60
DENSITY
10^{-12}
10^{-13}
10^{-14}
PERIGEE
ALT(KM.)= 182.42
LONG(E)= 319.80
LAT(DEG.)= 62.37
GMT(SEC.)= 52159.7 (1429H)
LOCAL TIME 1148 (H)
IN SUN FROM 51798. TO 52922.
IN SHADE FROM 51552. TO 51798.
KP=6-
F10.7=84.2
51550 51700 51850 52000 52150 52300 52450 52600 52750 52900 GMT(SEC.)
70.6 78.7 82.4 74.2 63.7 52.7 41.7 30.9 20.5 10.5 LAT(DEG.)
108.3 86.4 13.3 332.3 320.3 314.6 311.0 309.3 306.1 304.2 LONG(E)
59.1 68.7 77.2 79.6 72.8 62.9 52.4 41.8 31.6 21.7 GEOM. LAT.
500.0 359.2 252.7 185.3 160.5 179.8 242.4 345.8 485.3 656.2 ALTITUDE
2132 2007 1517 1235 1150 1130 1118 1109 1103 1058 L.T.(HRS.)



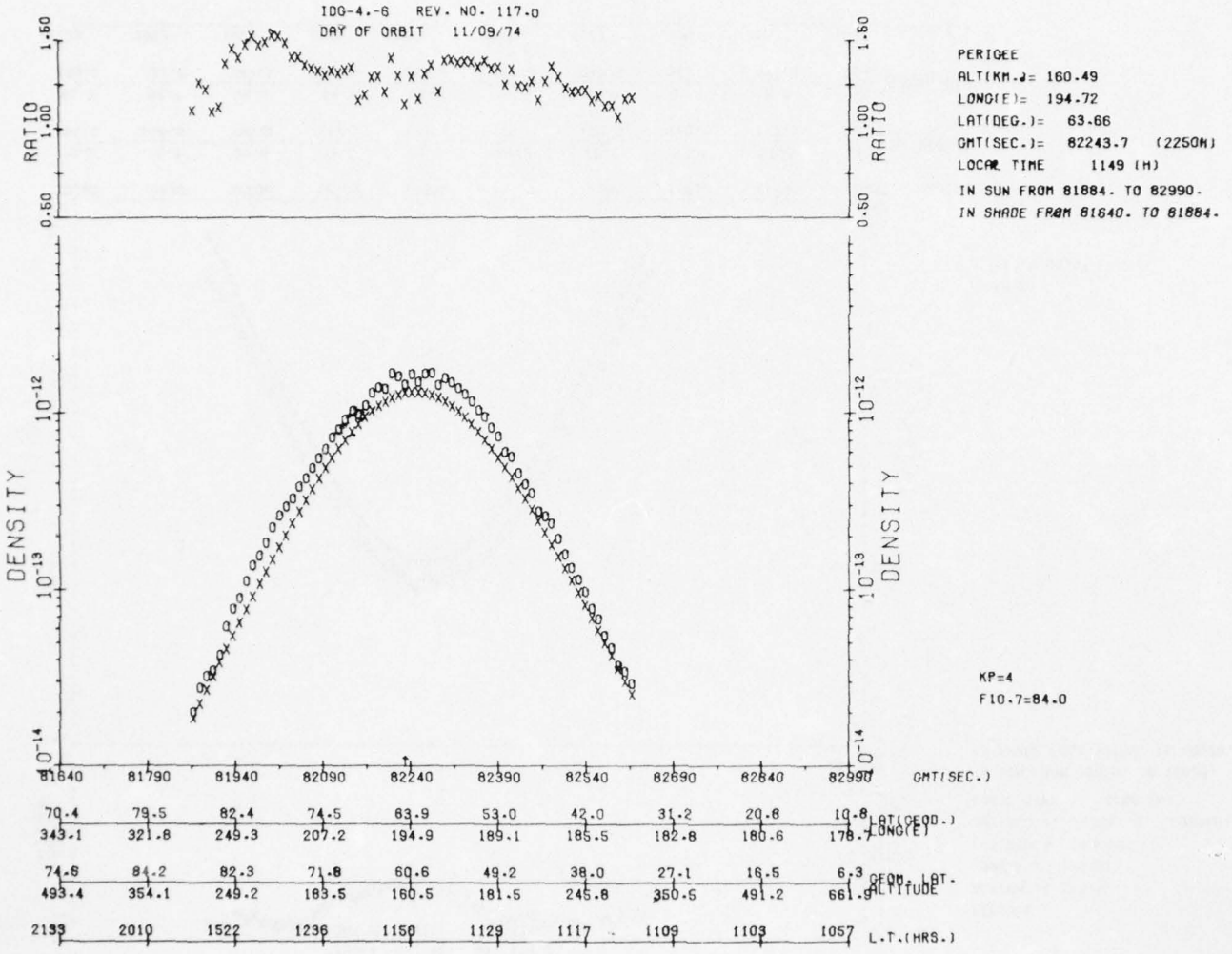
PERIGEE
ALT(KM.)= 160.60
LONG(E)= 257.24
LAT(DEG.)= [illegible]3.32
GMT(SEC.)= 67203.2 (1840H)
LOCAL TIME 1149 (H)
IN SUN FROM 66837. TO 67940.
IN SHADE FROM 66590. TO 66837.

KP=5-
F10.7=84.0



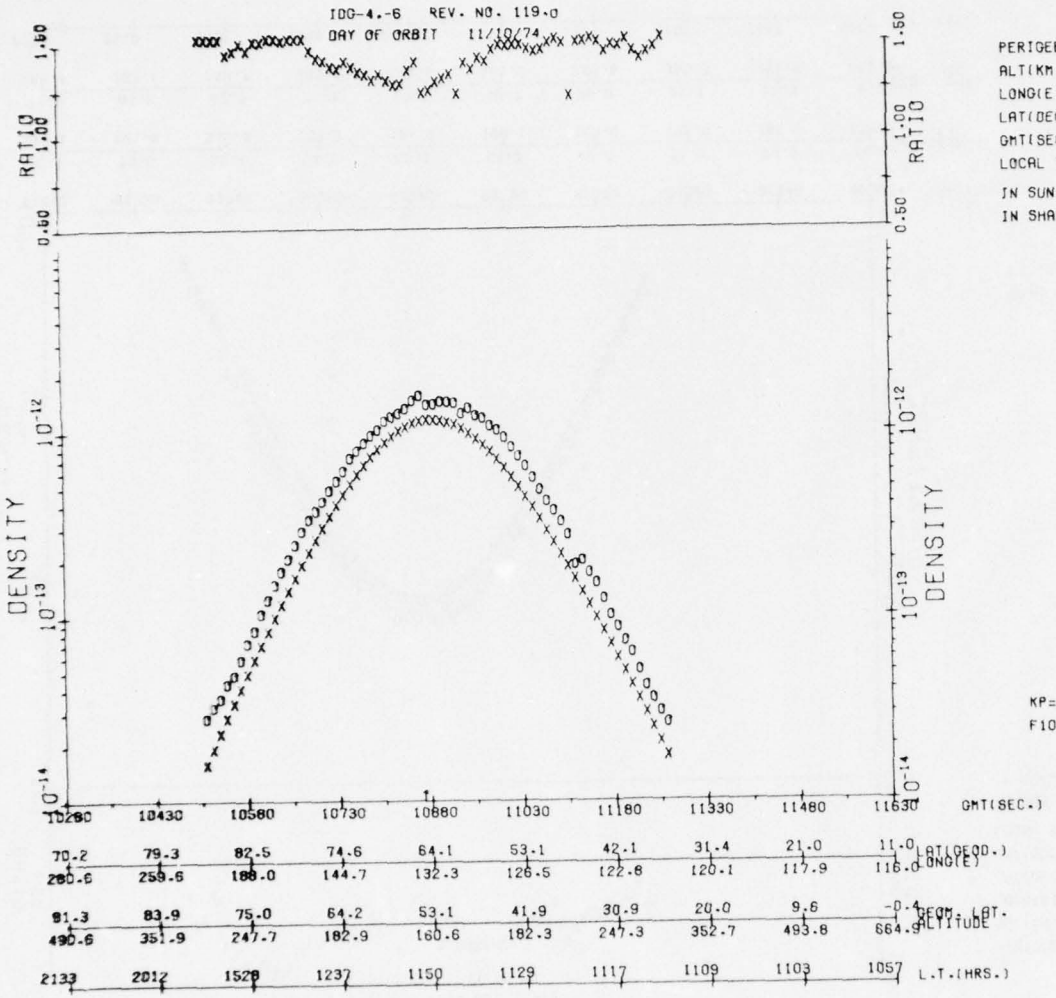
PERIGEE
ALT(KM.)= 160.55
LONG(E)= 225.99
LAT(DEG.)= 63.49
GMT(SEC.)= 74723.9 (2045H)
LOCAL TIME 1149 (H)
IN SUN FROM 74361. TO 75470.
IN SHADE FROM 74120. TO 74361.

KP=5-
F10.7=84.0



PERIGEE
ALT(KM.)= 160.49
LONG(E)= 194.72
LAT(DEG.)= 63.66
GMT(SEC.)= 82243.7 (22SOM)
LOCAL TIME 1149 (H)
IN SUN FROM 81884. TO 82990.
IN SHADE FROM 81640. TO 81884.

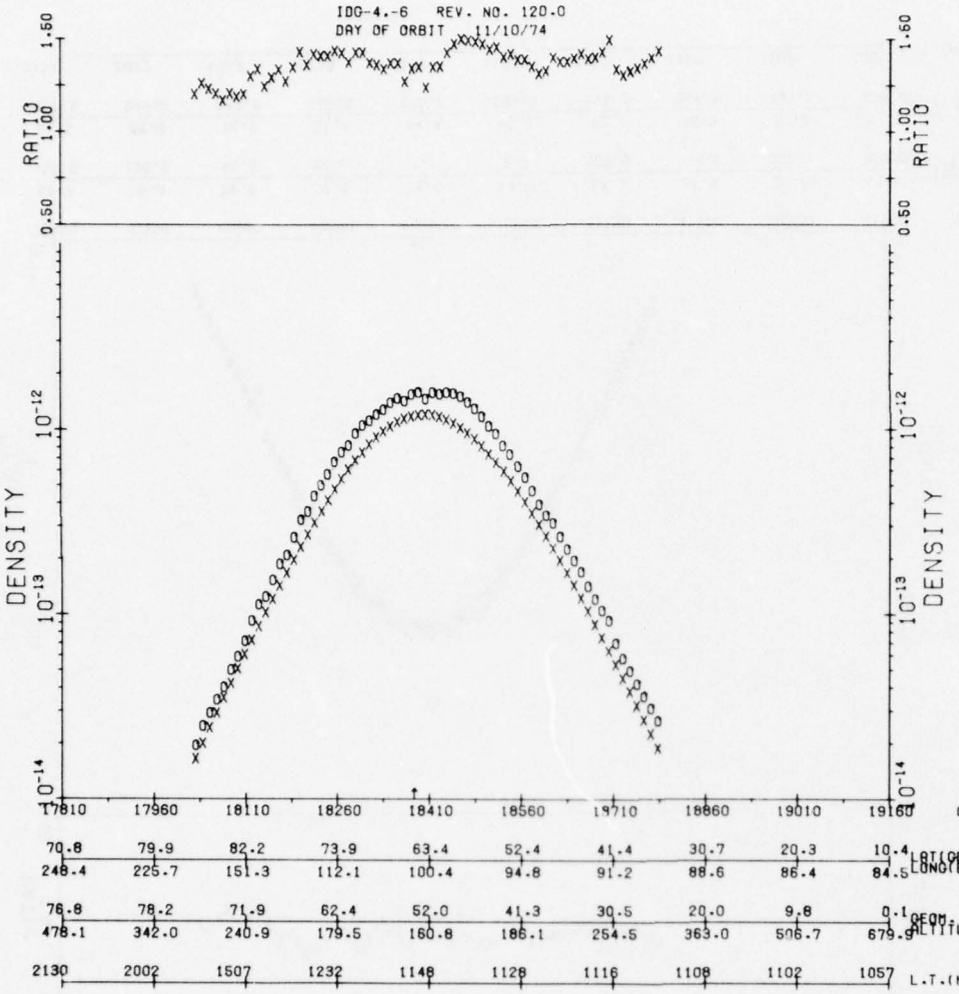
KP=4
F10.7=84.0



PERIGEE
ALT(KM.)= 160.61
LONG(E)= 132.21
LAT(DEG.)= 64.00
GMT(SEC.)= 10881.0 (0301H)
LOCAL TIME 1150 (H)

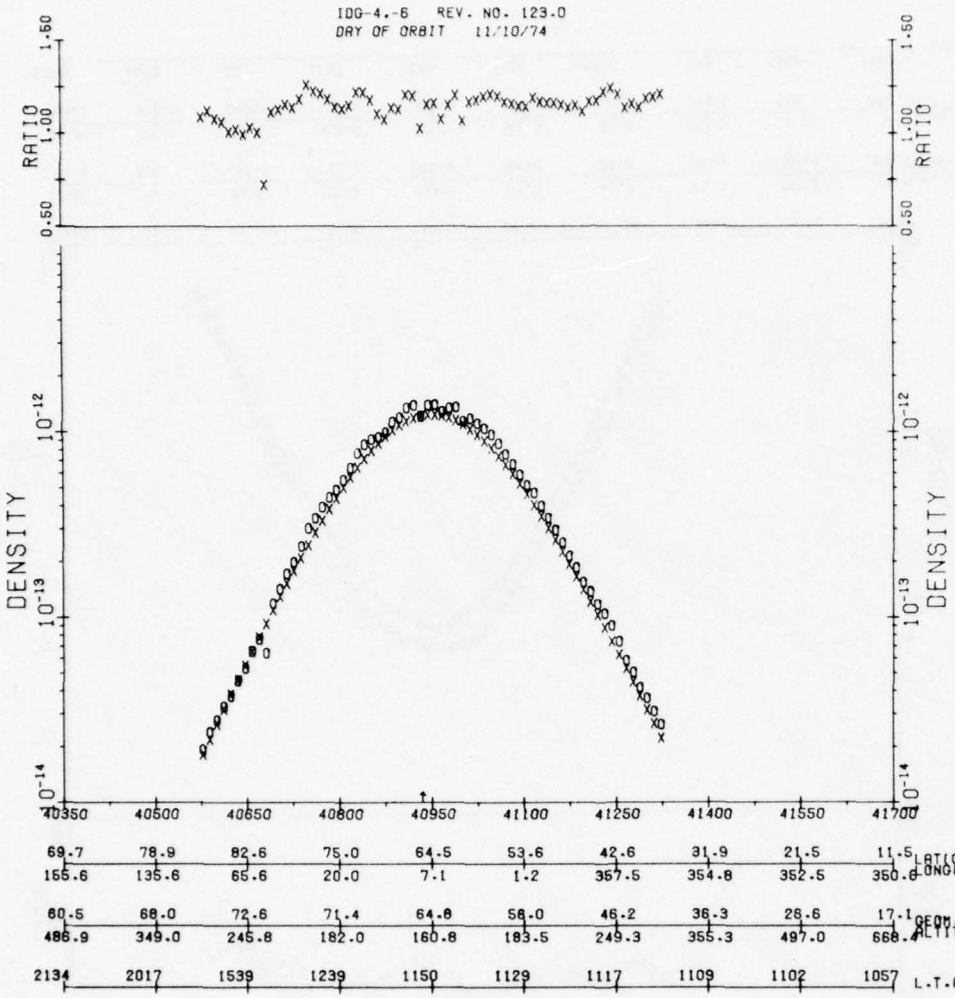
IN SUN FROM 10529. TO 11630.
IN SHADE FROM 10280. TO 10529.

KP=2
F10.7=80.0



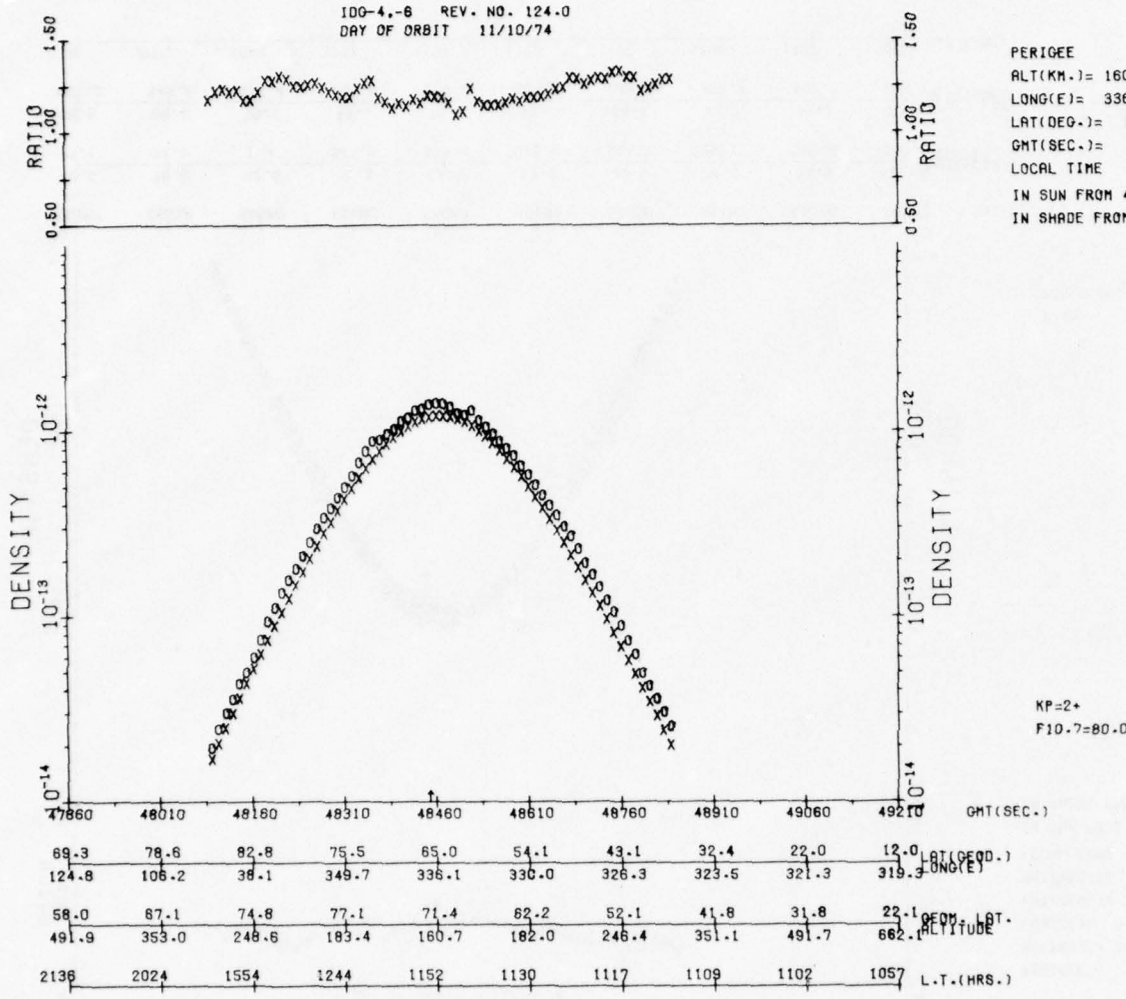
PERIGEE
ALT(KM.)= 160.68
LONG(E)= 100.95
LAT(DEG.)= 64.17
GMT(SEC.)= 18398.8 (0506H)
LOCAL TIME 1150 (H)
IN SUN FROM 18050. TO 19160.
IN SHADE FROM 17810. TO 18050.

KP=2+
F10.7=80.0



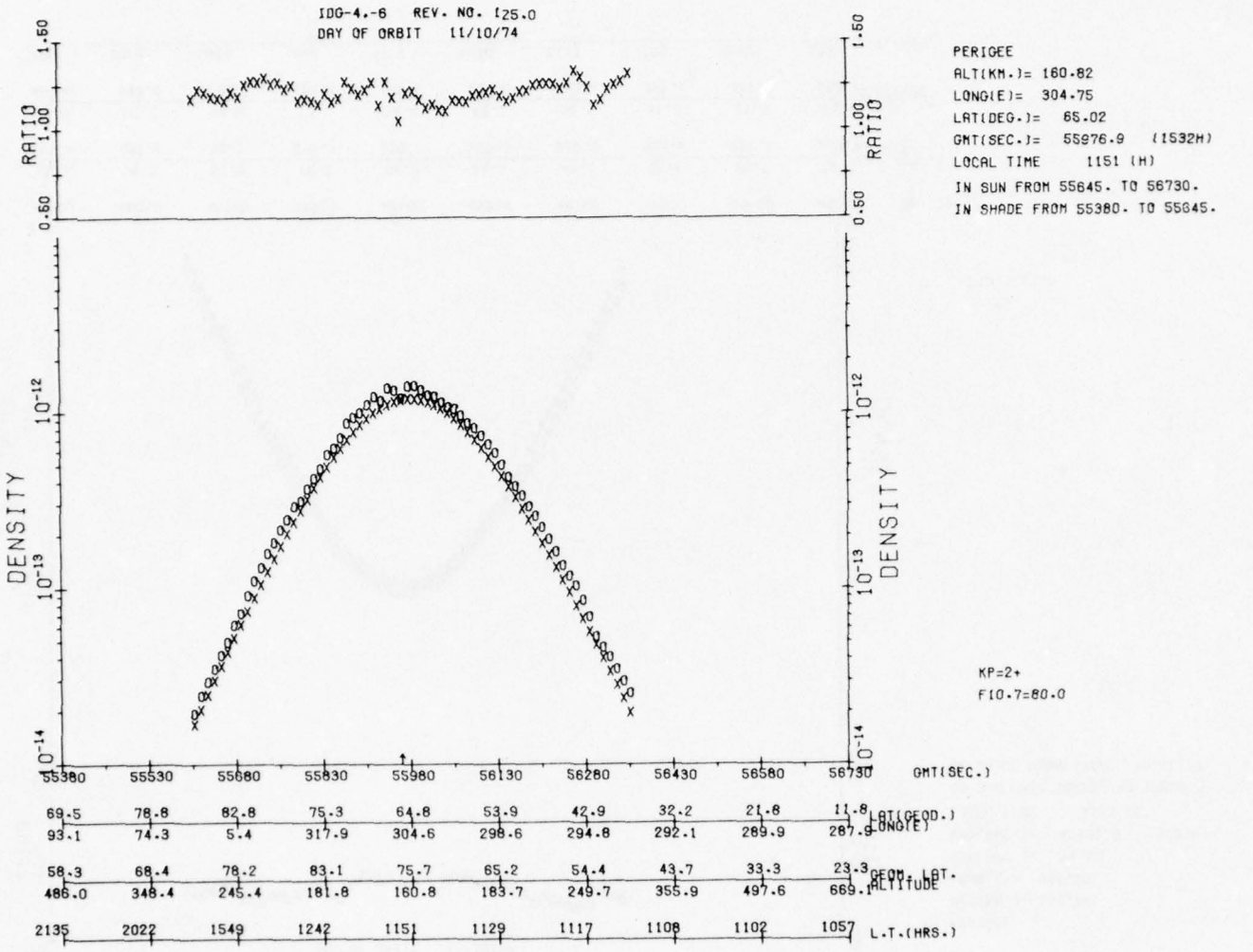
PERIGEE
ALT(KM.)= 160.76
LONG(E)= 7.24
LAT(DEG.)= 64.69
GMT(SEC.)= 40947.6 (1122H)
LOCAL TIME 1151 (H)
IN SUN FROM 40609. TO 41700.
IN SHADE FROM 40350. TO 40609.

KP=3
F10.7=80.0



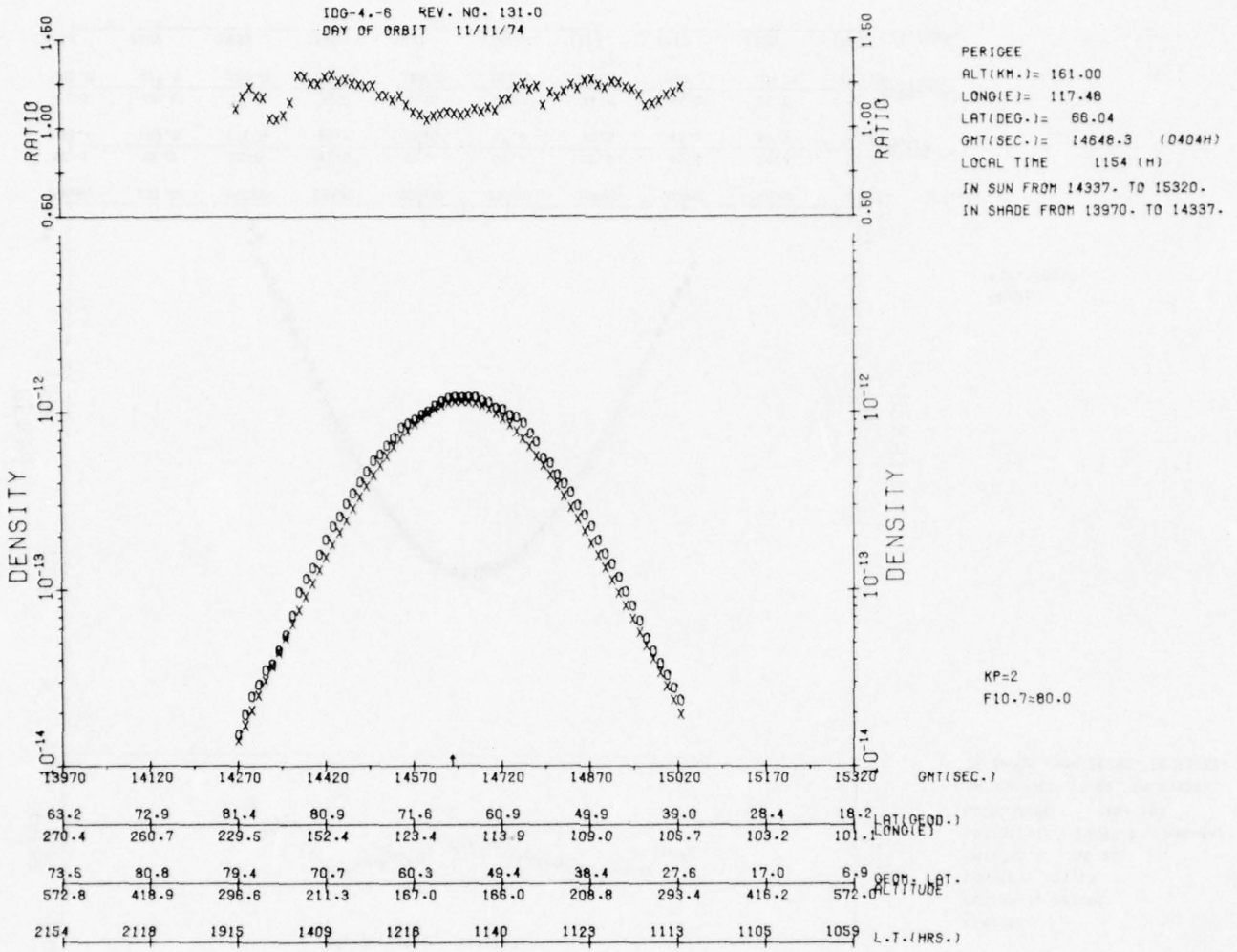
PERIGEE
ALT(KM.)= 160.74
LONG(E)= 336.00
LAT(DEG.)= 64.85
GMT(SEC.)= 48462.6 (1327H)
LOCAL TIME 1151 (H)
IN SUN FROM 48127. TO 49210.
IN SHADE FROM 47860. TO 48127.

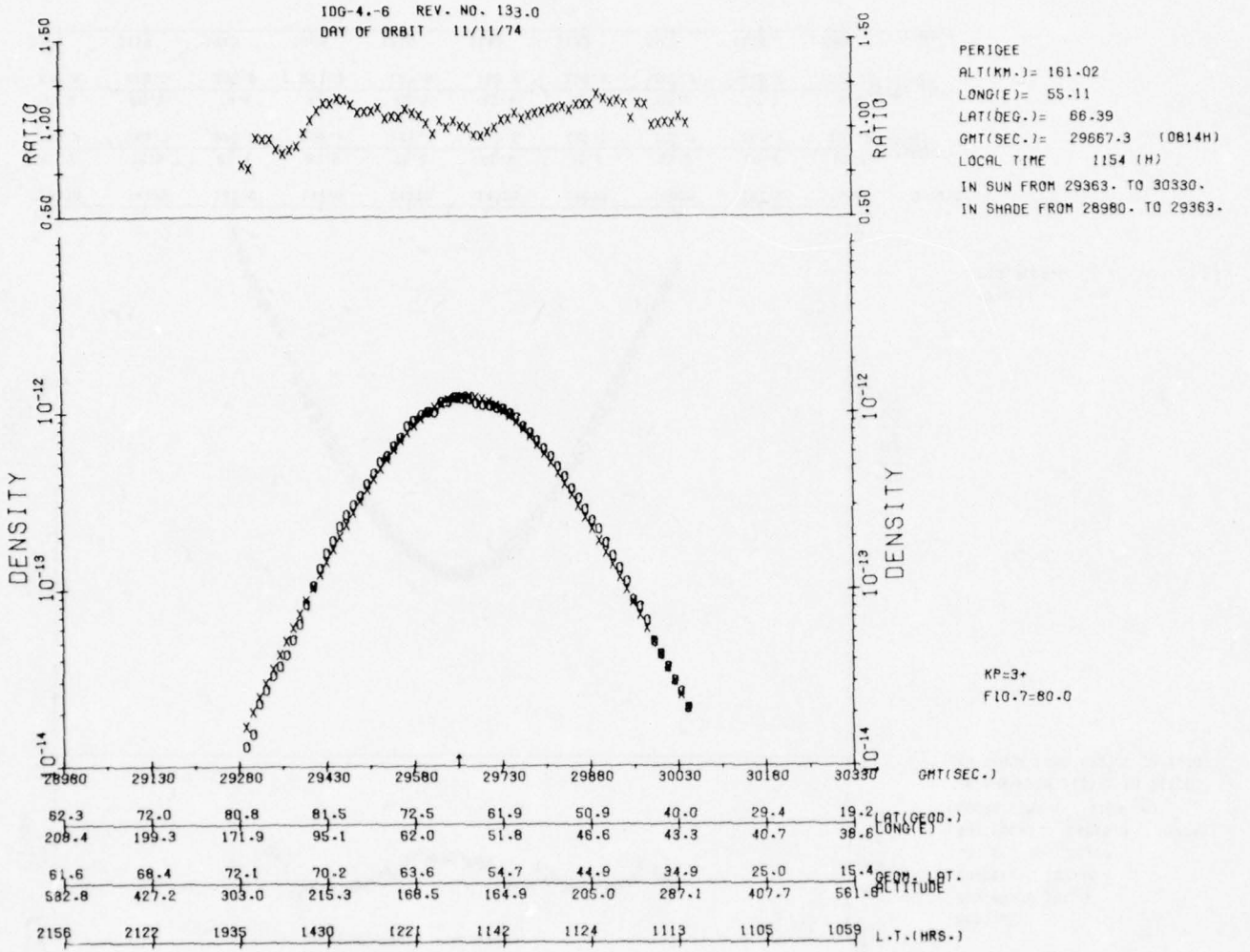
KP=2+
F10.7=80.0



PERIGEE
ALT(KM.)= 160.82
LONG(E)= 304.75
LAT(DEG.)= 65.02
GMT(SEC.)= 55976.9 (1532H)
LOCAL TIME 1151 (H)
IN SUN FROM 55645. TO 56730.
IN SHADE FROM 55380. TO 55645.

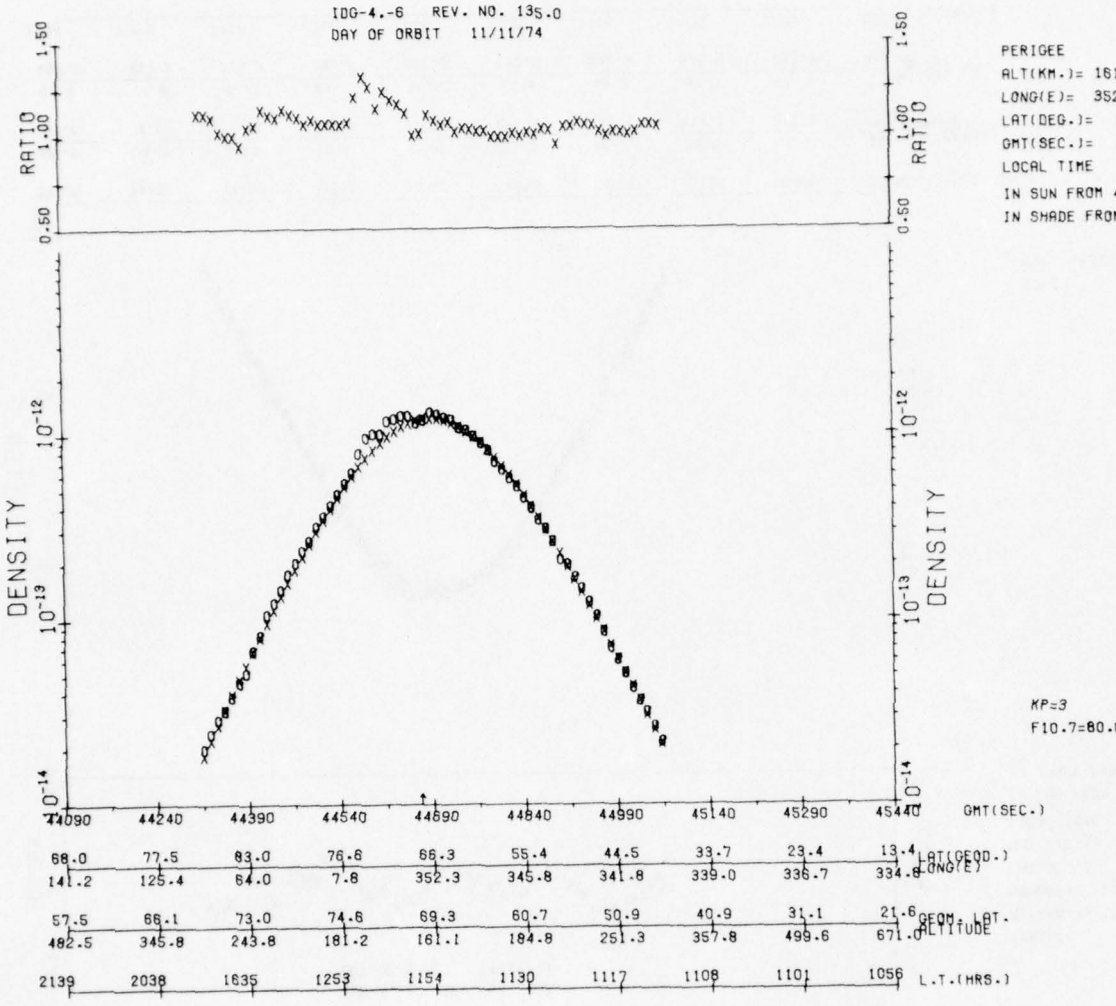
KP=2+
F10.7=80.0


IDG-4.-6 REV. NO. 131.0
DAY OF ORBIT 11/11/74
RATIO
1.60
1.00
0.60
DENSITY
10^{-12}
10^{-13}
10^{-14}
13970 14120 14270 14420 14570 14720 14870 15020 15170 15320 GMT(SEC.)
63.2 72.9 81.4 80.9 71.6 60.9 49.9 39.0 28.4 18.2 LAT(GEOD.)
270.4 260.7 229.5 152.4 123.4 113.9 109.0 105.7 103.2 101.1 LONG(E)
73.5 80.8 79.4 70.7 60.3 49.4 38.4 27.6 17.0 6.9 GEOM. LAT.
572.8 418.9 296.6 211.3 167.0 166.0 208.8 293.4 416.2 572.0 ALTITUDE
2154 2118 1915 1409 1218 1140 1123 1113 1105 1059 L.T.(HRS.)
PERIGEE
ALT(KM.)= 161.00
LONG(E)= 117.48
LAT(DEG.)= 66.04
GMT(SEC.)= 14648.3 (0404H)
LOCAL TIME 1154 (H)
IN SUN FROM 14337. TO 15320.
IN SHADE FROM 13970. TO 14337.
KP=2
F10.7=80.0



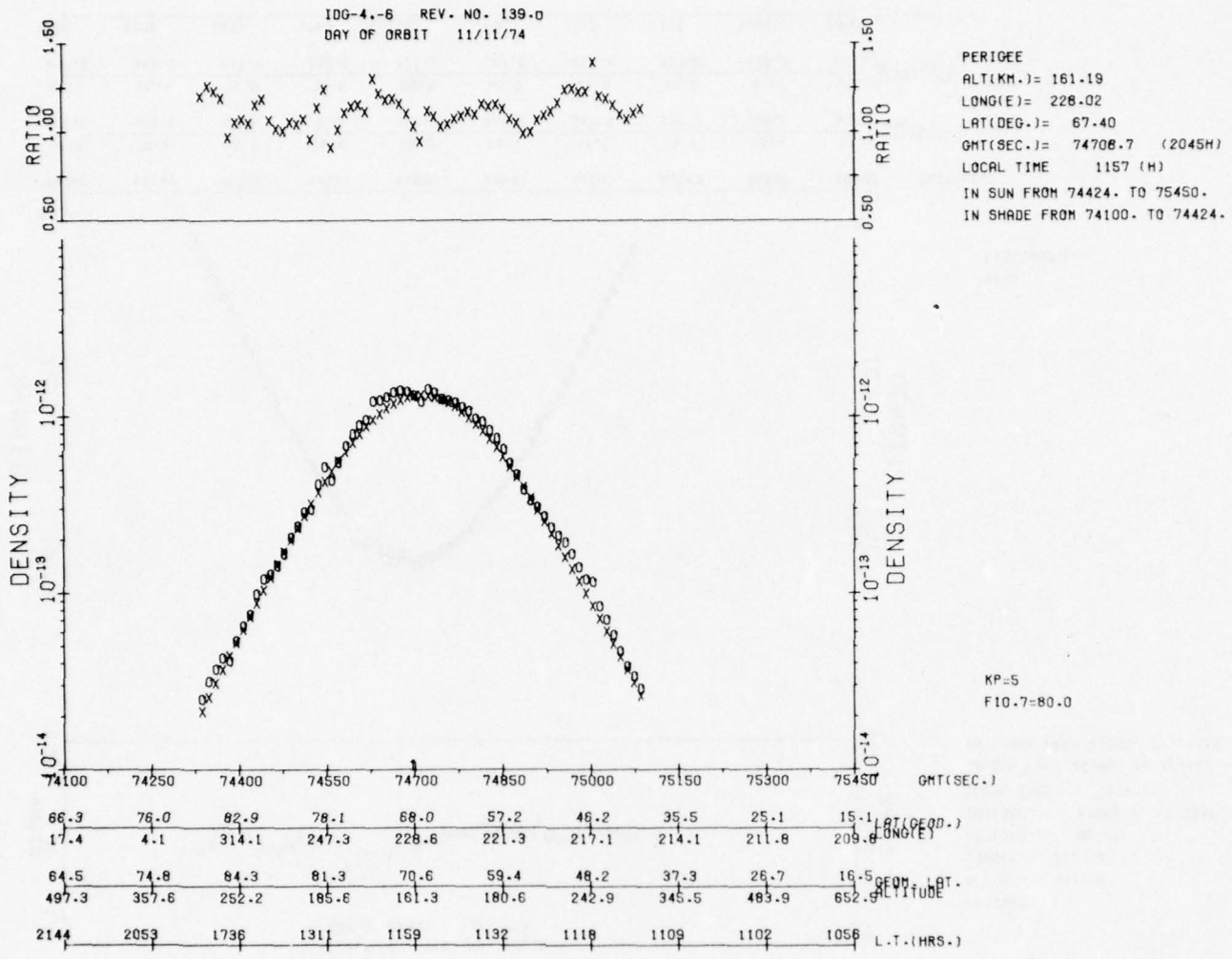
PERIGEE
ALT(KM.)= 161.02
LONG(E)= 55.11
LAT(DEG.)= 66.39
GMT(SEC.)= 29667.3 (0814H)
LOCAL TIME 1154 (H)
IN SUN FROM 29363. TO 30330.
IN SHADE FROM 28980. TO 29363.

KP=3+
F10.7=80.0



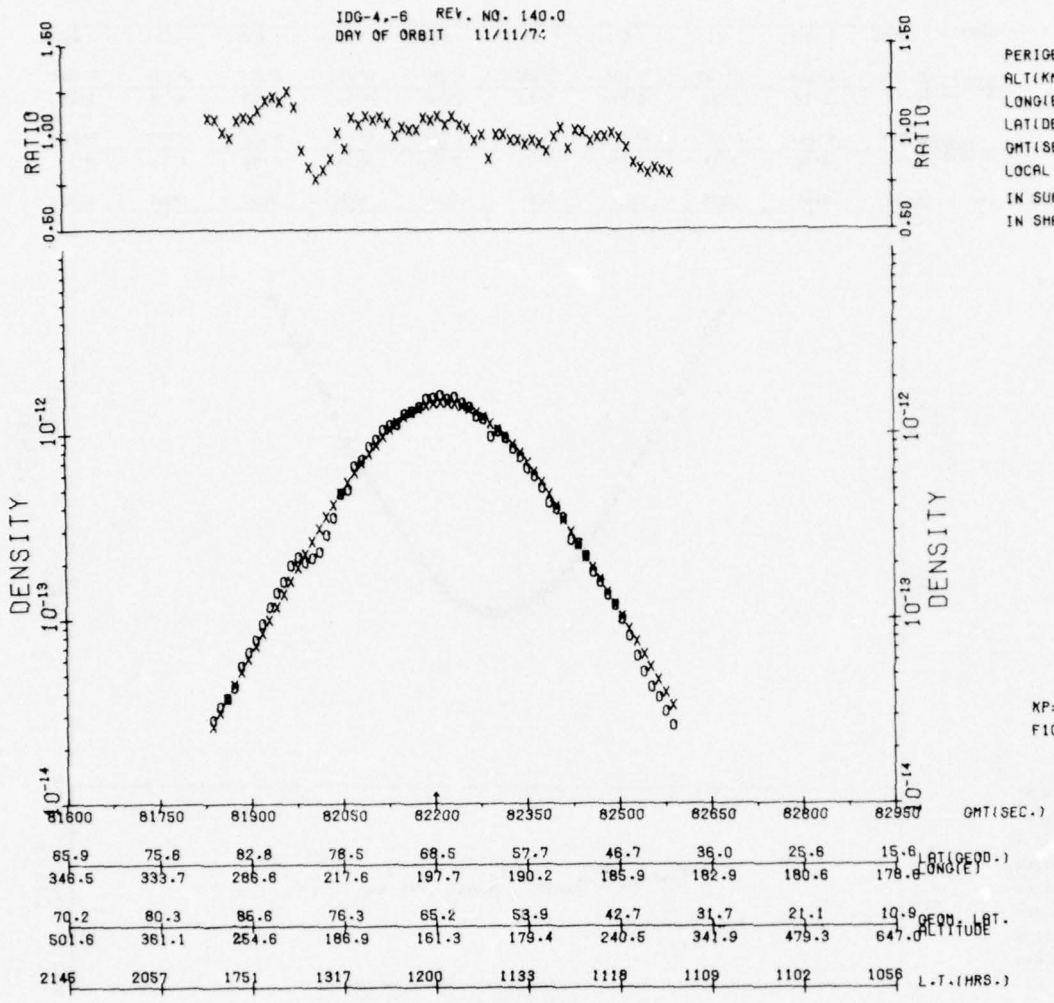
PERIGEE
ALT(KM.)= 161.06
LONG(E)= 352.72
LAT(DEG.)= 66.72
GMT(SEC.)= 44684.0 (1224H)
LOCAL TIME 1155 (H)
IN SUN FROM 44386. TO 45440.
IN SHADE FROM 44090. TO 44386.

KP=3
F10.7=80.0



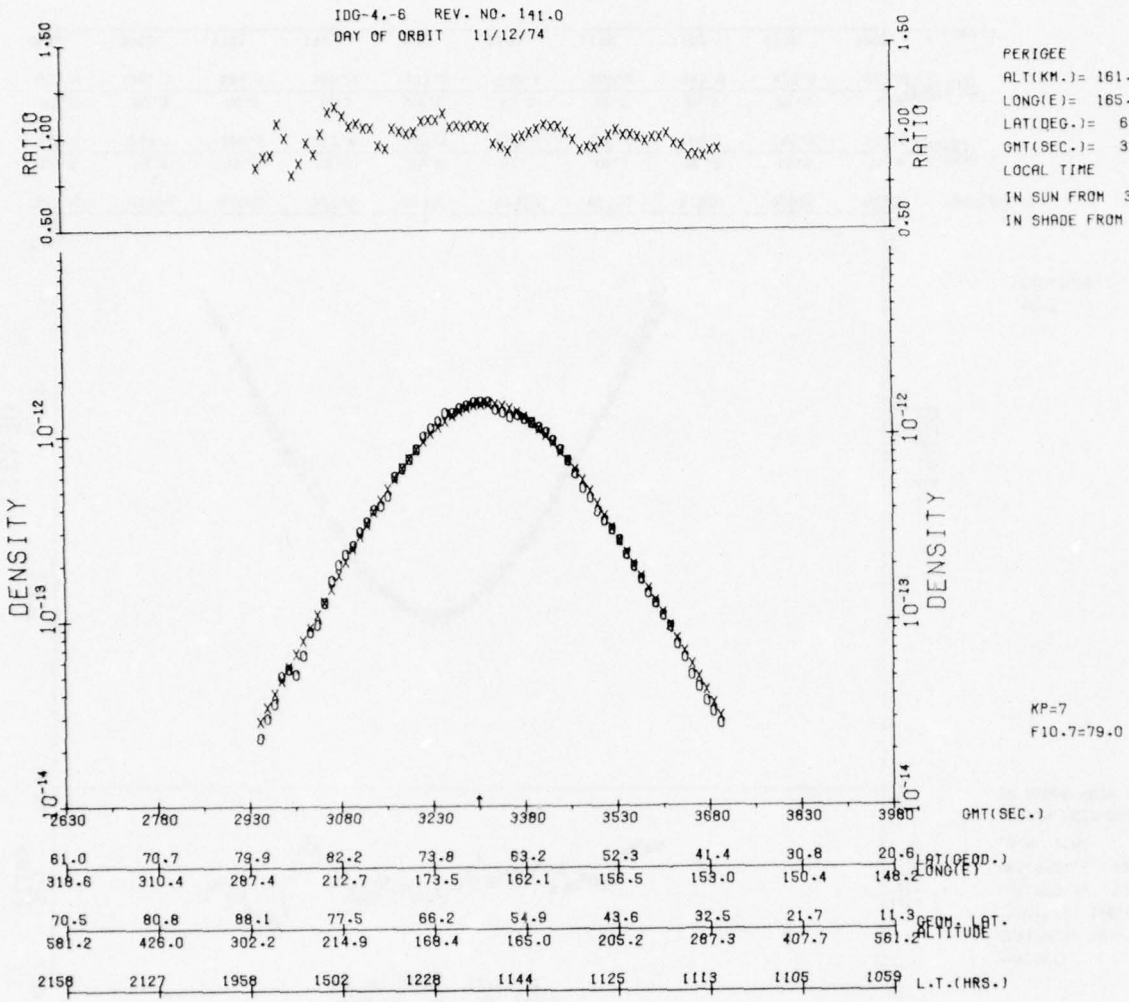
PERIGEE
ALT(KM.)= 161.19
LONG(E)= 228.02
LAT(DEG.)= 67.40
GMT(SEC.)= 74708.7 (2045H)
LOCAL TIME 1157 (H)
IN SUN FROM 74424. TO 75450.
IN SHADE FROM 74100. TO 74424.

KP=5
F10.7=80.0



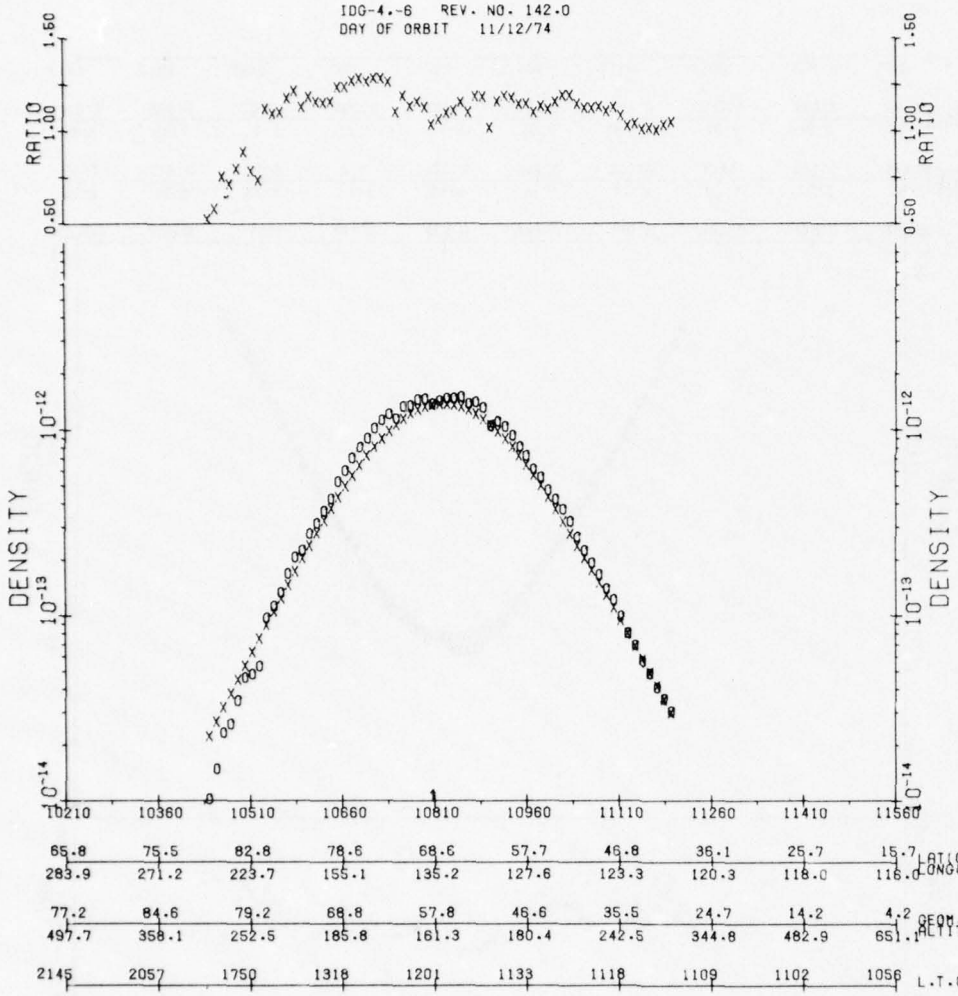
PERIGEE
ALT(KM.)= 161.13
LONG(E)= 196.87
LAT(DEG.)= 67.57
GMT(SEC.)= 82213.1 (2250H)
LOCAL TIME 1157 (H)
IN SUN FROM 81932. TO 82950.
IN SHADE FROM 81600. TO 81932.

KP=7
F10.7=80.0



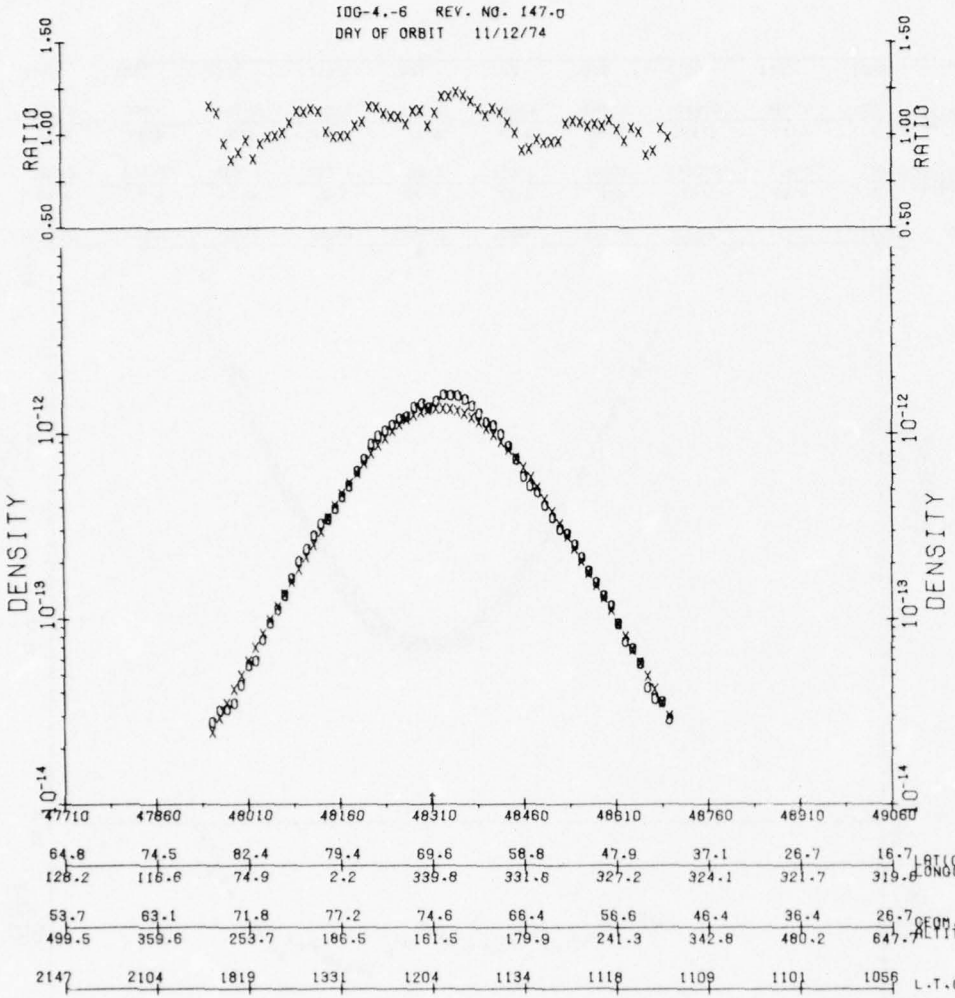
PERIGEE
ALT(KM.)= 161.10
LONG(E)= 165.72
LAT(DEG.)= 67.74
GMT(SEC.)= 3316.6 (0055H)
LOCAL TIME 1158 (H)
IN SUN FROM 3039. TO 3980.
IN SHADE FROM 2630. TO 3039.

KP=7
F10.7=79.0



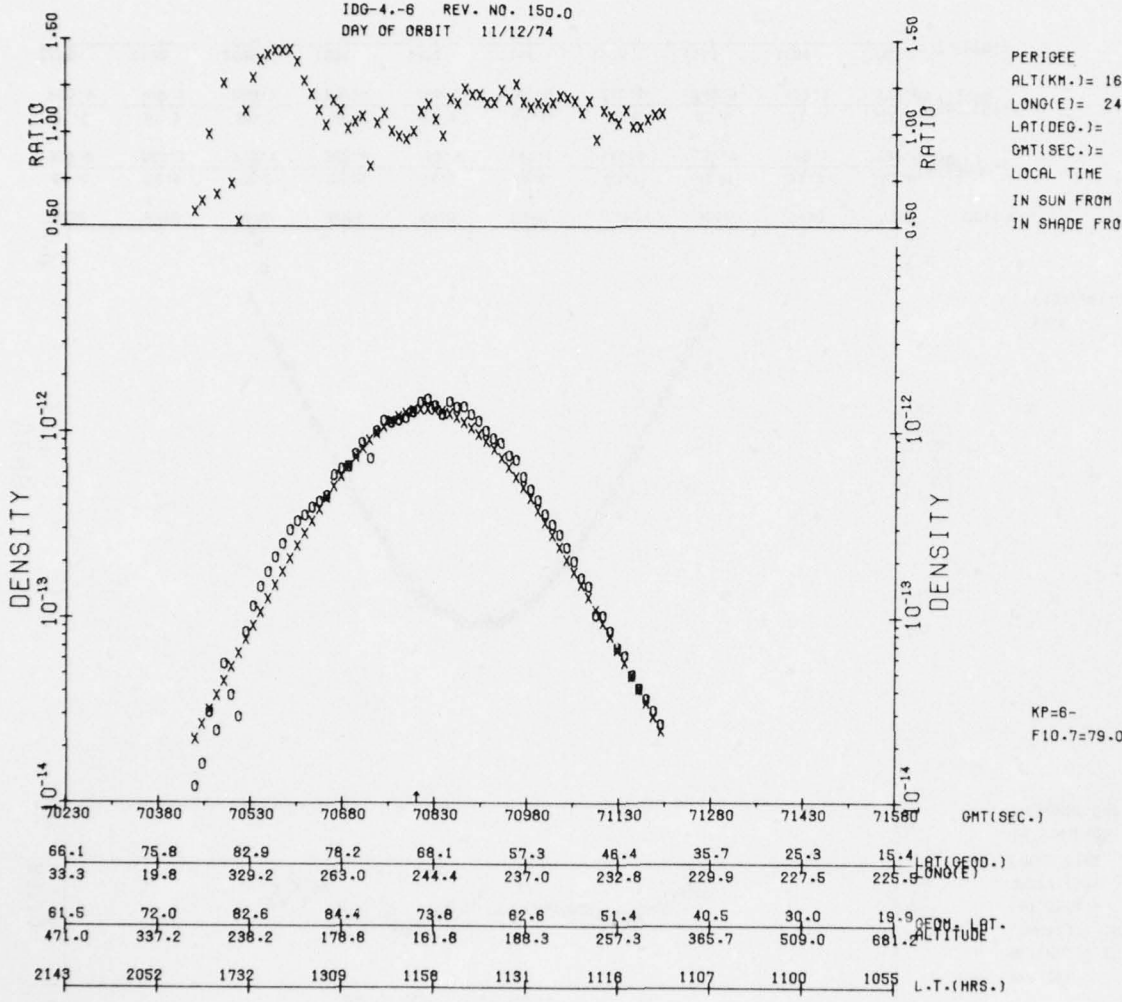
PERIGEE
ALT(KM.)= 161.24
LONG(E)= 134.57
LAT(DEG.)= 67.91
GMT(SEC.)= 10819.4 (0300H)
LOCAL TIME 1158 (H)
IN SUN FROM 10545. TO 11560.
IN SHADE FROM 10210. TO 10545.

KP=6
F10.7=79.0



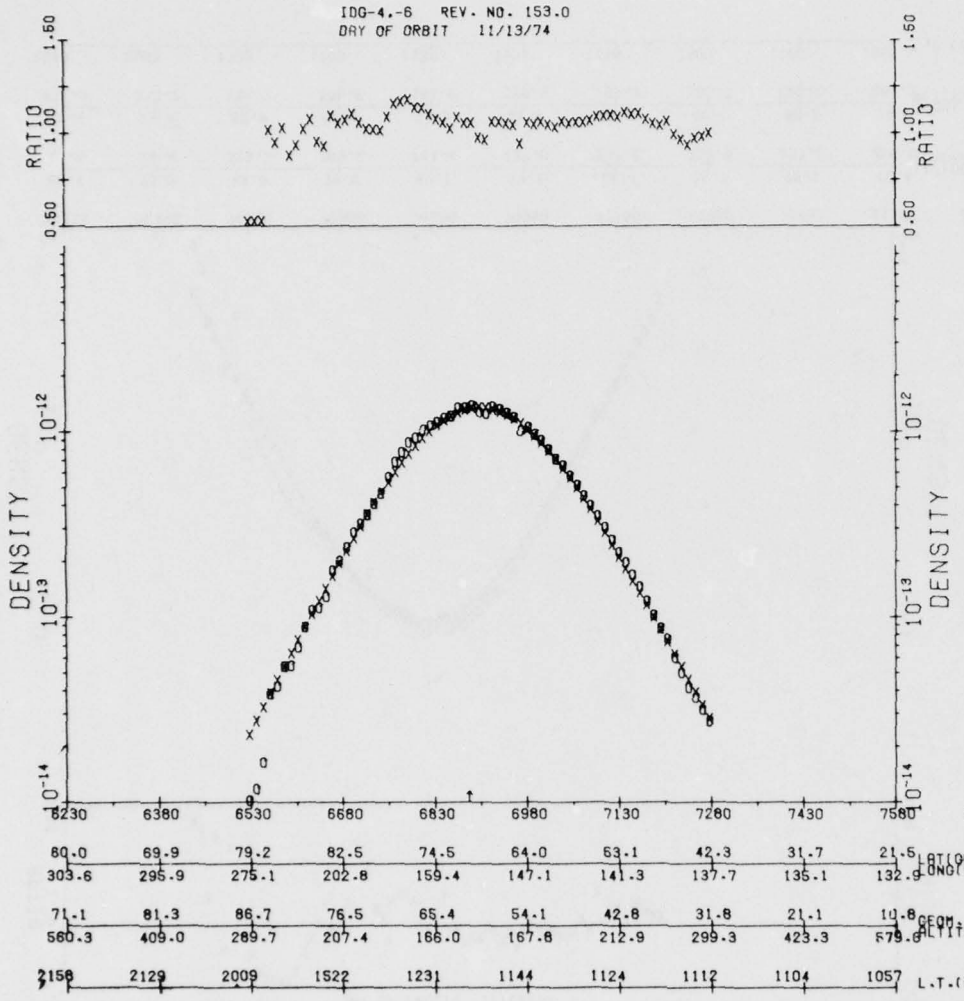
PERIGEE
ALT(KM.)= 161.33
LONG(E)= 338.92
LAT(DEG.)= 68.75
GMT(SEC.)= 48321.5 (1325H)
LOCAL TIME 1201 (H)
IN SUN FROM 48063. TO 49060.
IN SHADE FROM 47710. TO 48063.

KP=6
F10.7=79.0



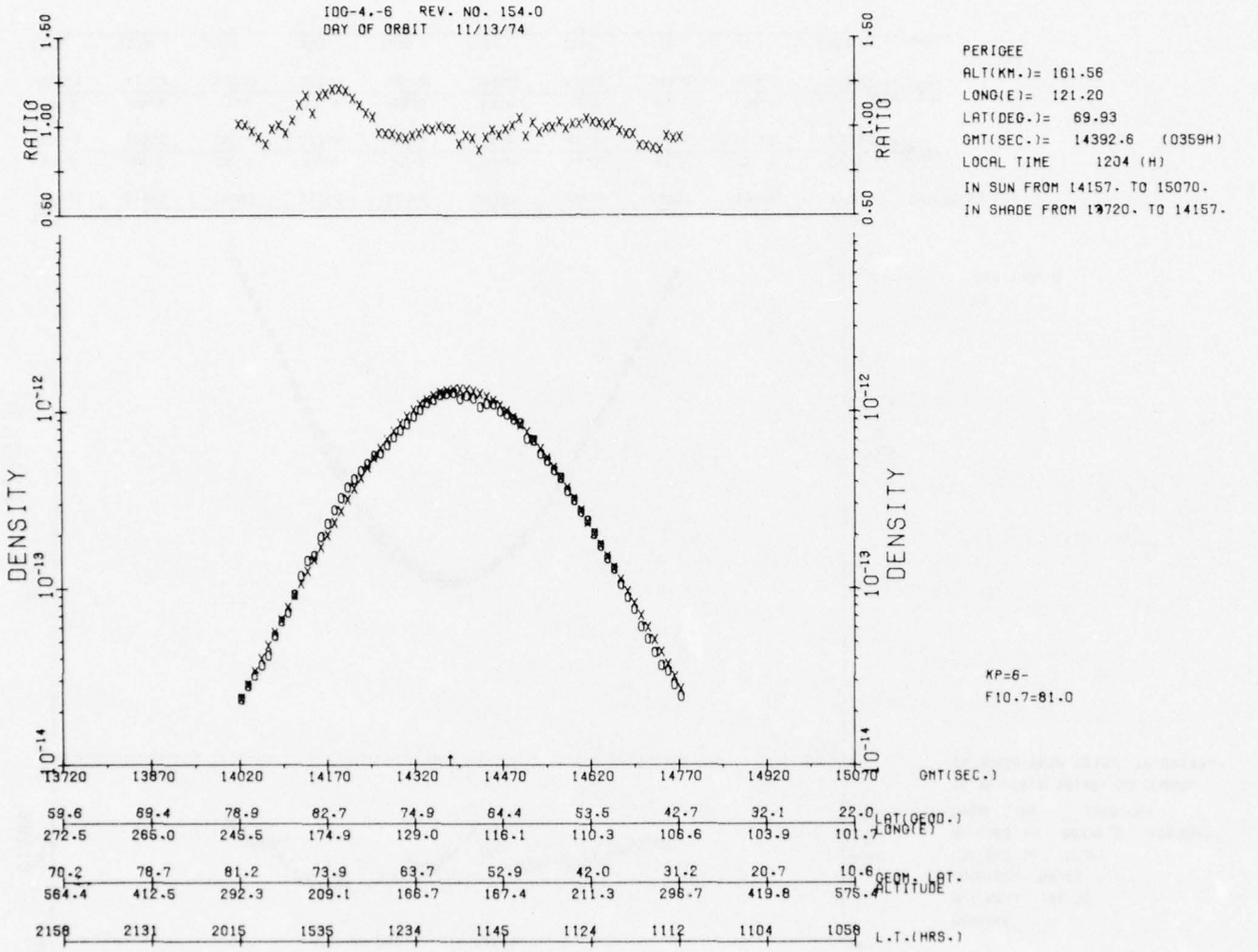
PERIGEE
ALT(KM.)= 161.51
LONG(E)= 245.58
LAT(DEG.)= 69.26
GMT(SEC.)= 70813.6 (1940H)
LOCAL TIME 1202 (H)
IN SUN FROM 70565. TO 71580.
IN SHADE FROM 70230. TO 70565.

KP=6-
F10.7=79.0



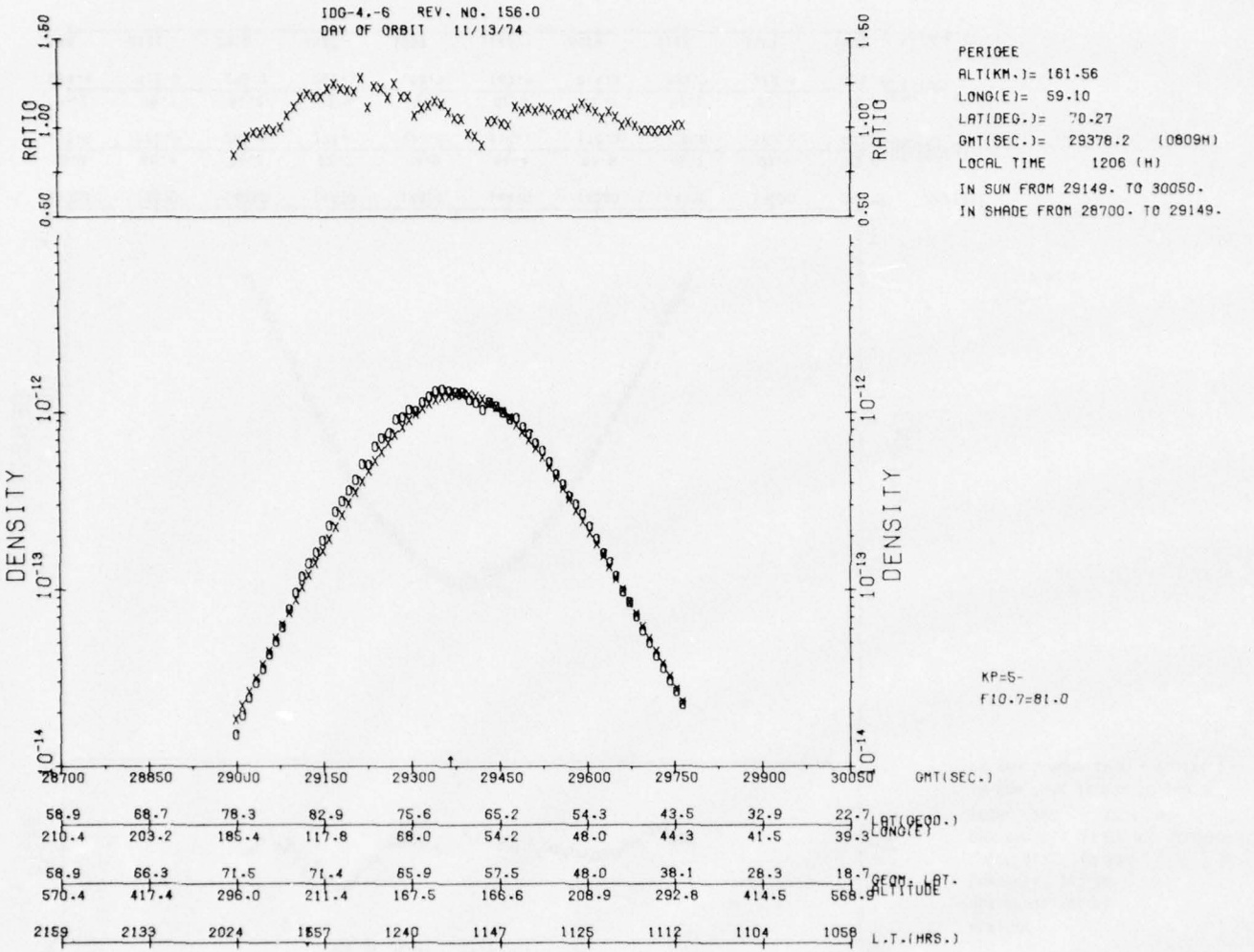
PERIGEE
ALT(KM.)= 161.42
LONG(E)= 152.27
LAT(DEG.)= 69.76
GMT(SEC.)= 6898.9 (0154H)
LOCAL TIME 1204 (H)
IN SUN FROM 6660. TO 7580.
IN SHADE FROM 6230. TO 6660.

KP=6-
F10.7=81.0



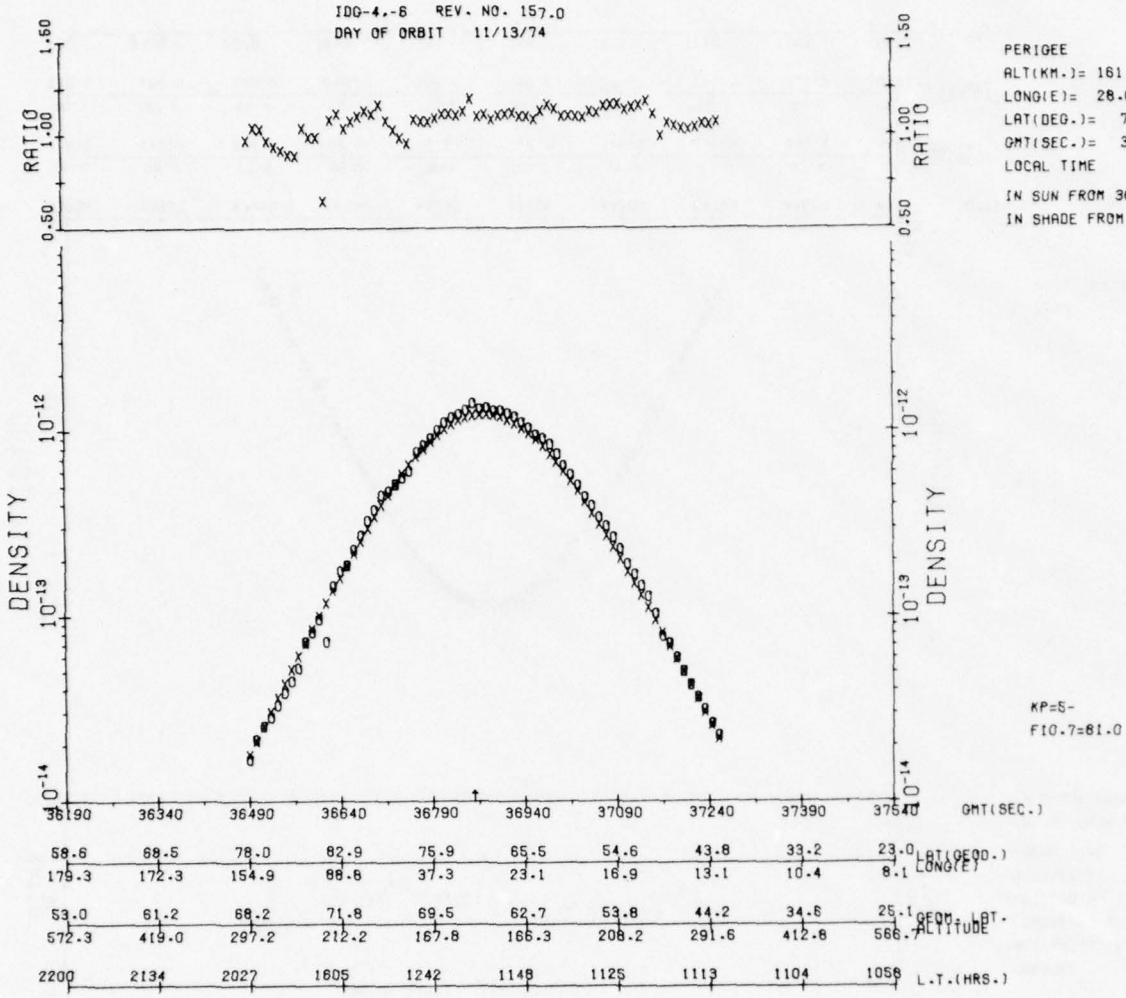
PERIGEE
ALT(KM.)= 161.56
LONG(E)= 121.20
LAT(DEG.)= 69.93
GMT(SEC.)= 14392.6 (0359H)
LOCAL TIME 1204 (H)
IN SUN FROM 14157. TO 15070.
IN SHADE FROM 13720. TO 14157.

KP=6-
F10.7=81.0



PERIGEE
ALT(KM.)= 161.56
LONG(E)= 59.10
LAT(DEG.)= 70.27
GMT(SEC.)= 29378.2 (0809H)
LOCAL TIME 1206 (H)
IN SUN FROM 29149. TO 30050.
IN SHADE FROM 28700. TO 29149.

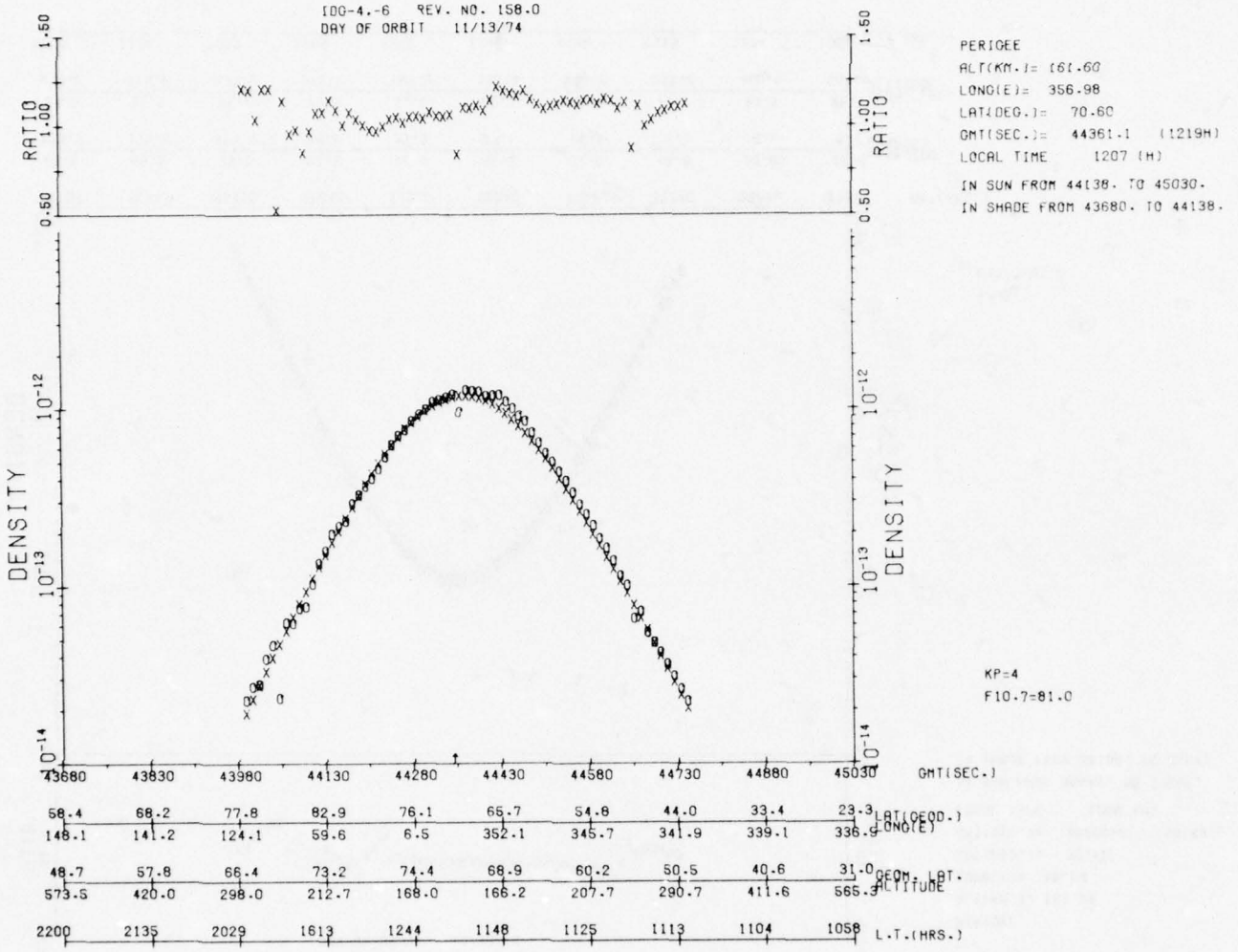
KP=5-
F10.7=81.0

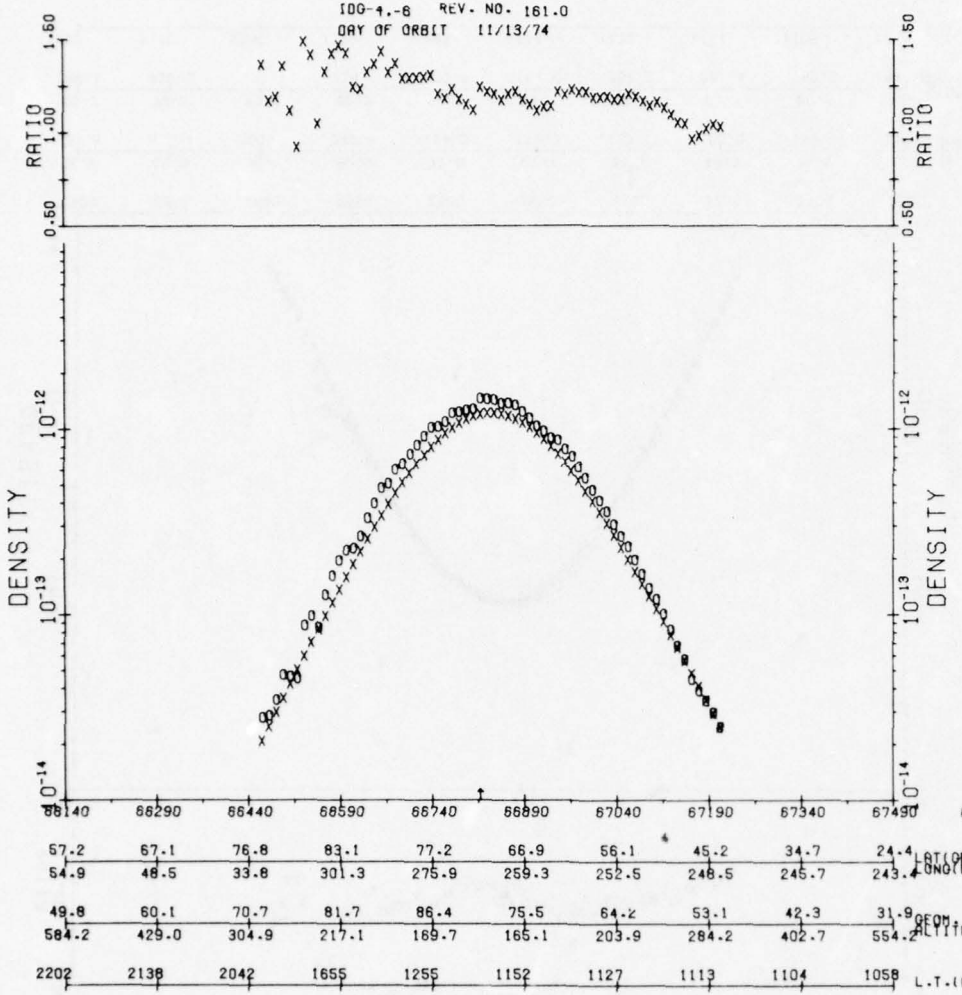


PERIGEE
ALT(KM.)= 161.59
LONG(E)= 28.04
LAT(DEG.)= 70.43
GMT(SEC.)= 36869.9 (1014H)
LOCAL TIME 1206 (H)

IN SUN FROM 36643. TO 37540.
IN SHADE FROM 36190. TO 36643.

KP=5-
F10.7=81.0

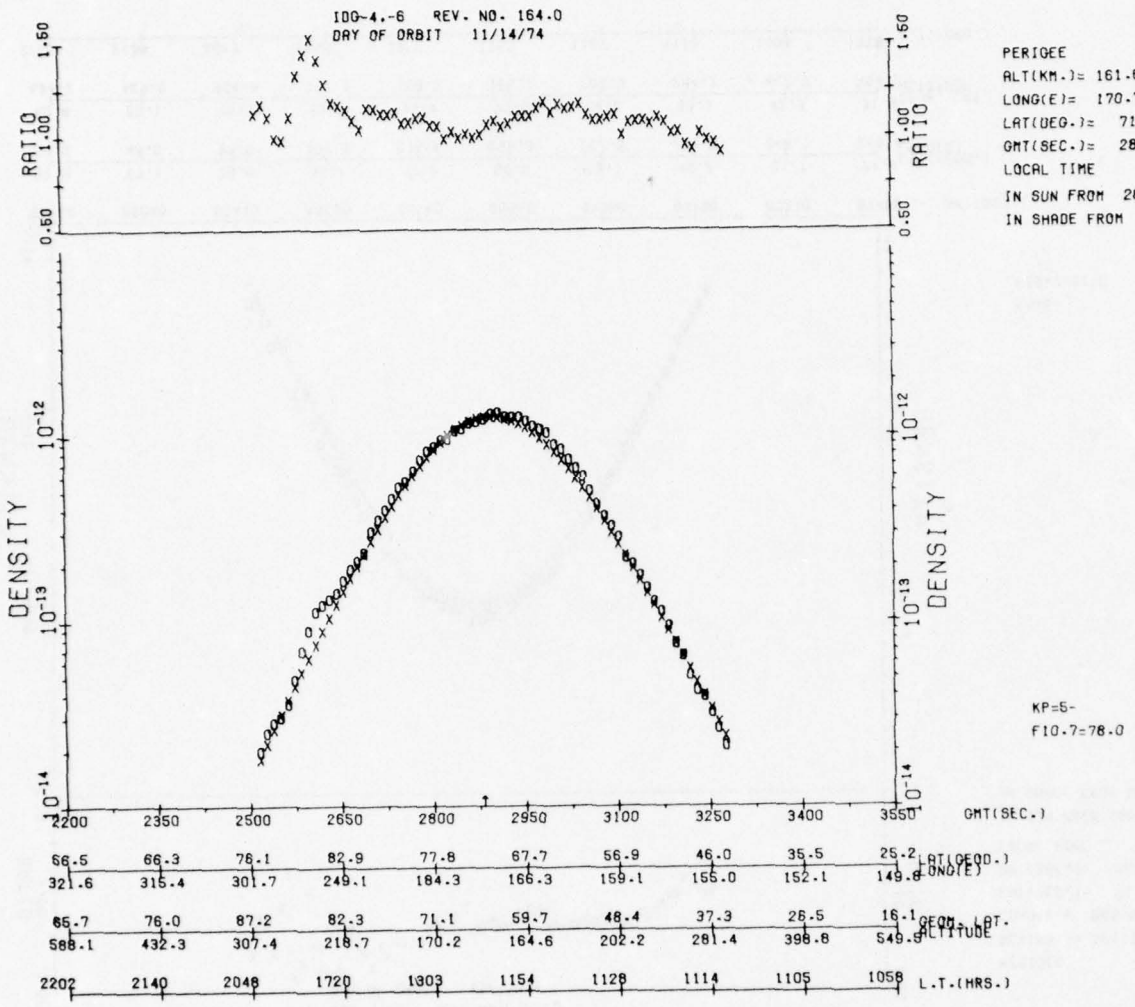

IDG-4.-6 REV. NO. 158.0
DAY OF ORBIT 11/13/74
RATIO
1.50
1.00
0.50
DENSITY
10^{-12}
10^{-13}
10^{-14}
PERIGEE
ALT(KM.)= 161.60
LONG(E)= 356.98
LAT(DEG.)= 70.60
GMT(SEC.)= 44361.1 (1219H)
LOCAL TIME 1207 (H)
IN SUN FROM 44138. TO 45030.
IN SHADE FROM 43680. TO 44138.
KP=4
F10.7=81.0
43680 43830 43980 44130 44280 44430 44580 44730 44880 45030 GMT(SEC.)
58.4 68.2 77.8 82.9 76.1 65.7 54.8 44.0 33.4 23.3 LAT(GEOD.)
148.1 141.2 124.1 59.6 6.5 352.1 345.7 341.9 339.1 336.9 LONG(E)
48.7 57.8 66.4 73.2 74.4 68.9 60.2 50.5 40.6 31.0 GEOM. LAT.
573.5 420.0 298.0 212.7 168.0 166.2 207.7 290.7 411.6 565.3 ALTITUDE
2200 2135 2029 1613 1244 1148 1125 1113 1104 1058 L.T.(HRS.)



PERIGEE
ALT(KM.)= 161.76
LONG(E)= 263.81
LAT(DEG.)= 71.10
GMT(SEC.)= 66830.8 (1833H)
LOCAL TIME 1209 (H)

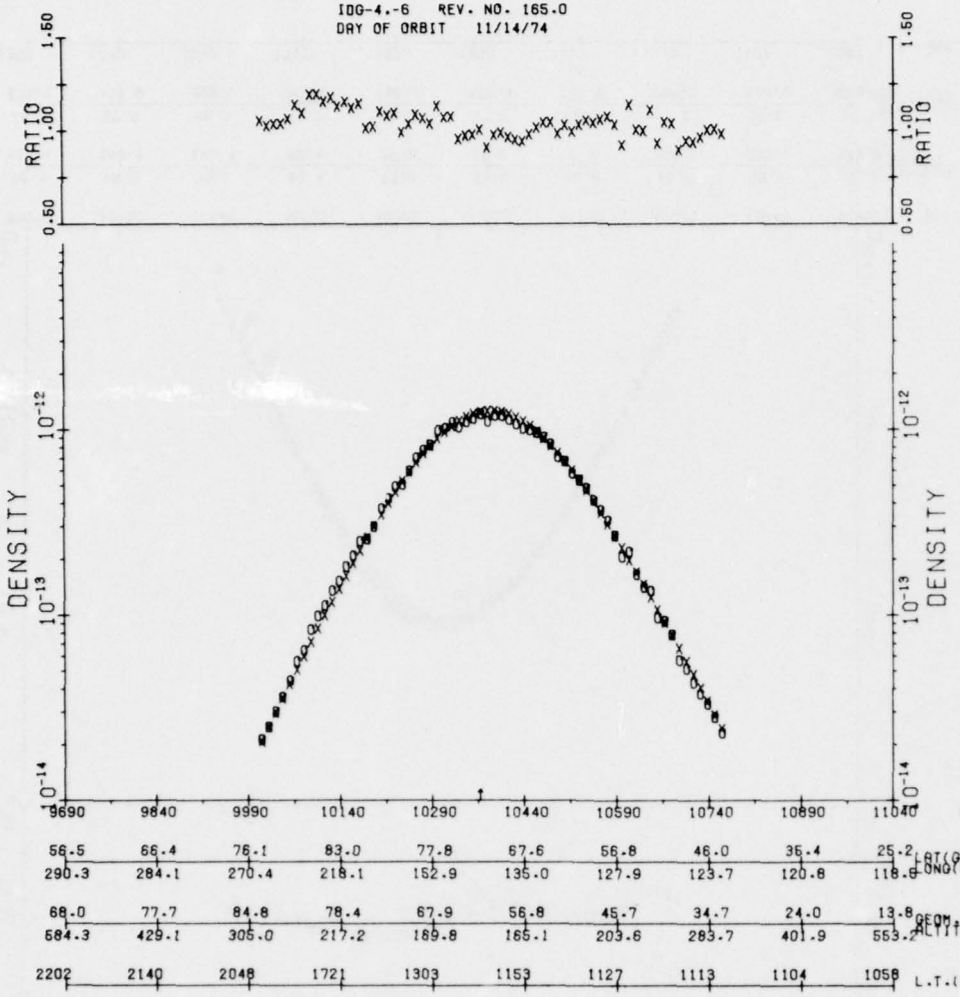
IN SUN FROM 66617. TO 67490.
IN SHADE FROM 66140. TO 66617.

KP=5-
F10.7=81.0



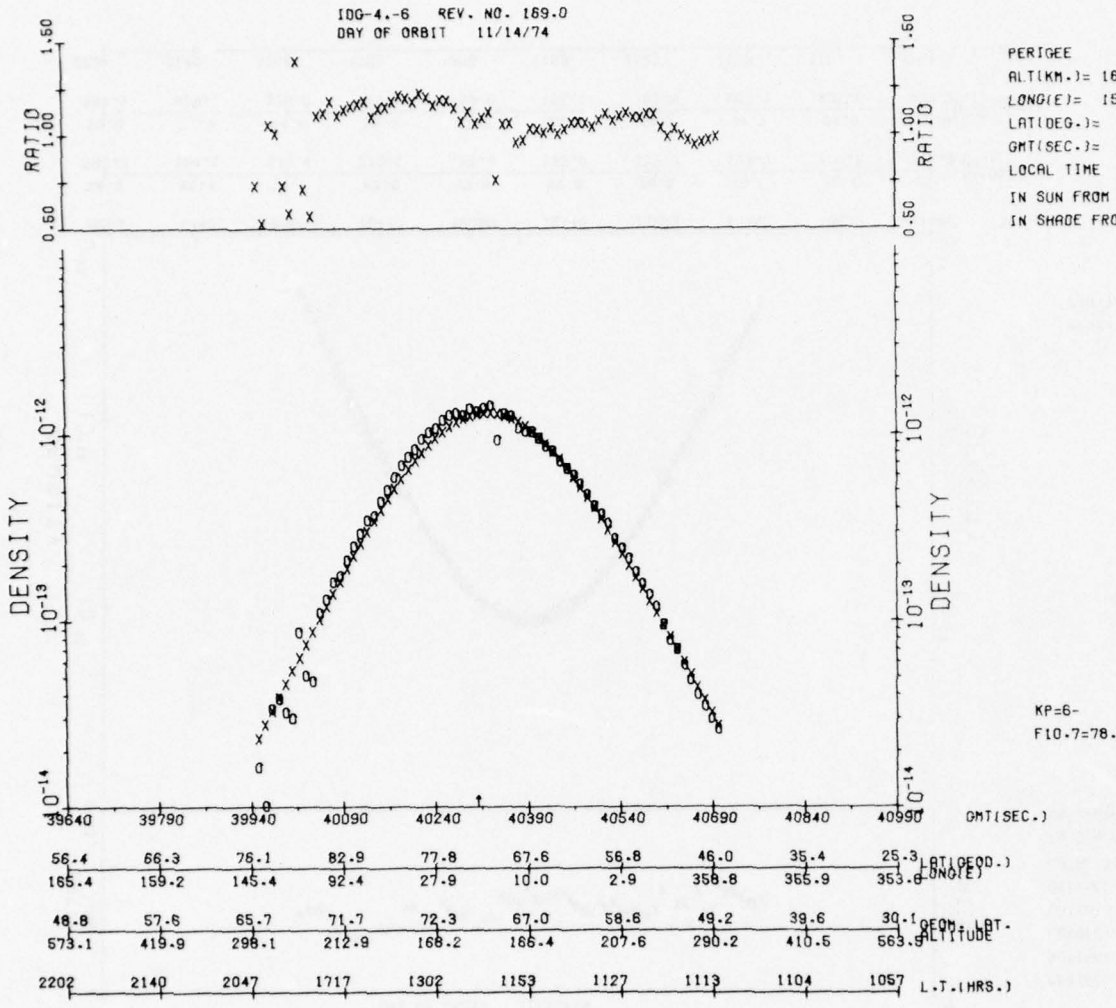
PERIGEE
ALT(KM.)= 161.60
LONG(E)= 170.75
LAT(DEG.)= 71.59
GMT(SEC.)= 2894.6 (0048H)
LOCAL TIME 1211 (H)
IN SUN FROM 2690. TO 3550.
IN SHADE FROM 2200. TO 2690.

KP=5-
F10.7=78.0



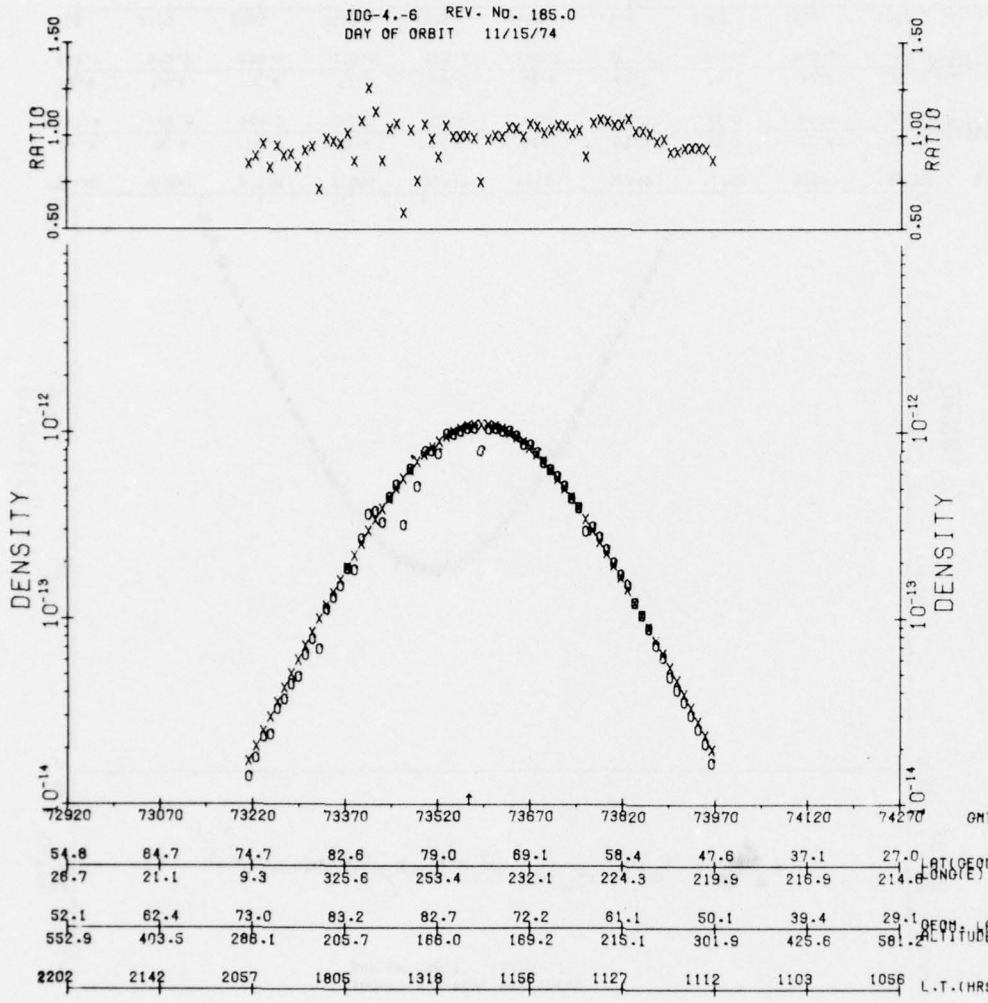
PERIGEE
ALT(KM.)= 161.74
LONG(E)= 139.69
LAT(DEG.)= 71.76
GMT(SEC.)= 10381.2 (0253H)
LOCAL TIME 1211 (H)
IN SUN FROM 10179. TO 11040.
IN SHADE FROM 9690. TO 10179.

KP=5-
F10.7=78.0



PERIGEE
ALT(KM.)= 161.83
LONG(E)= 15.71
LAT(DEG.)= 72.43
GMT(SEC.)= 40321.5 (1112H)
LOCAL TIME 1214 (H)
IN SUN FROM 40132. TO 40990.
IN SHADE FROM 39640. TO 40132.

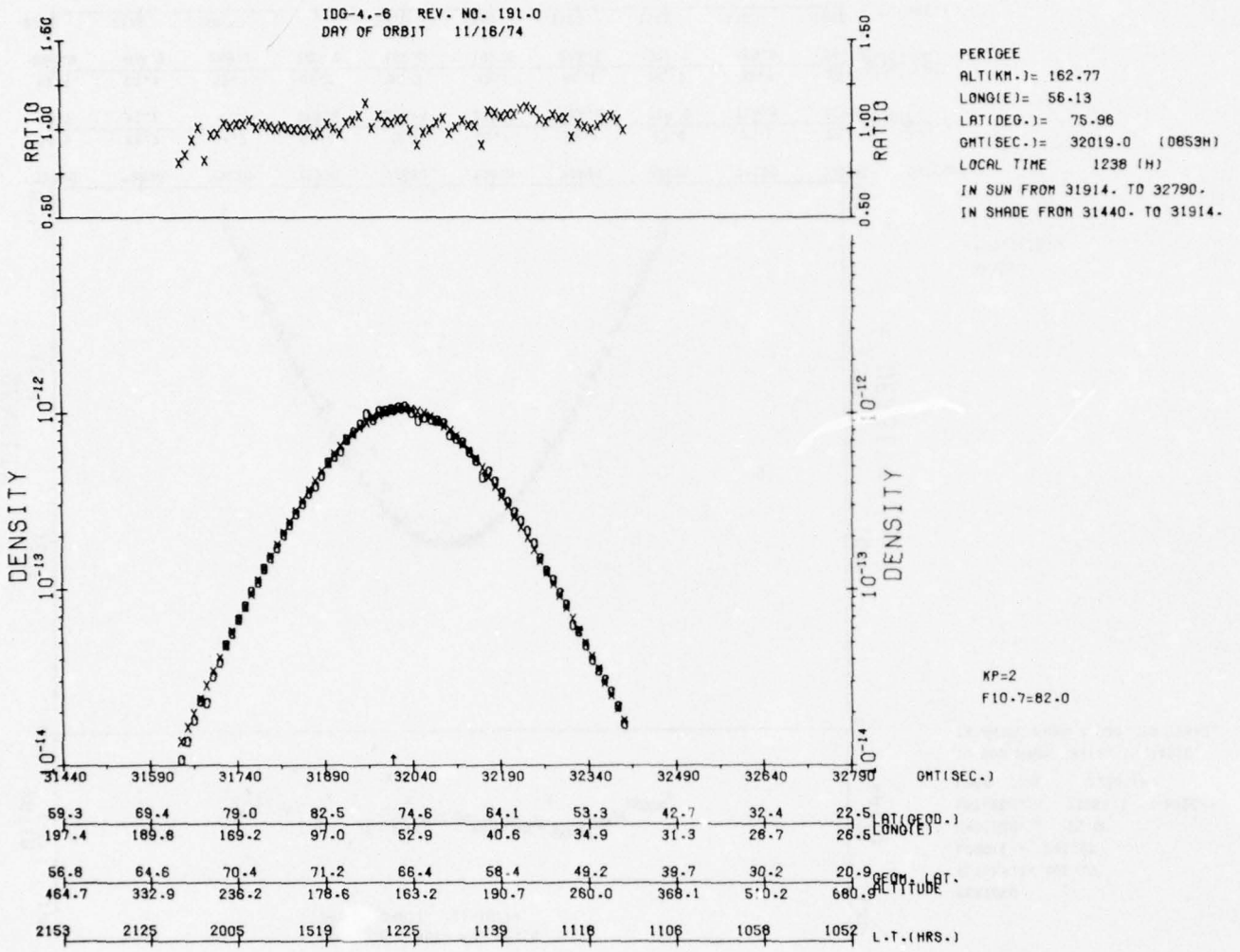
KP=6-
F10.7=78.0



PERIGEE
ALT(KM.)= 162.10
LONG(E)= 241.06
LAT(DEG.)= 75.00
GMT(SEC.)= 73584.1 (2026H)
LOCAL TIME 1230 (H)

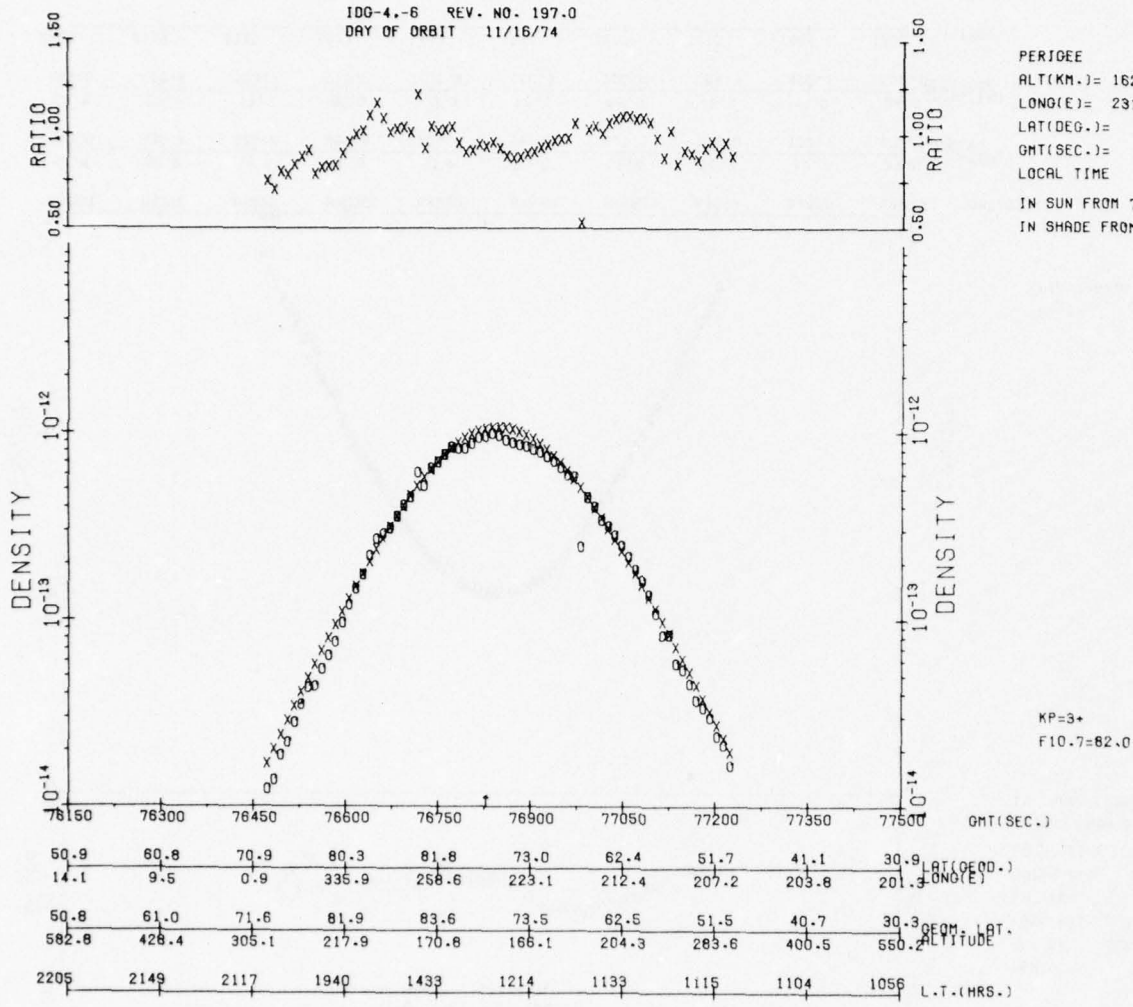
IN SUN FROM 73442. TO 74270.
IN SHADE FROM 72920. TO 73442.

KP=3+
F10.7=79.0



PERIGEE
ALT(KM.)= 162.77
LONG(E)= 56.13
LAT(DEG.)= 75.96
GMT(SEC.)= 32019.0 (0853H)
LOCAL TIME 1238 (H)
IN SUN FROM 31914. TO 32790.
IN SHADE FROM 31440. TO 31914.

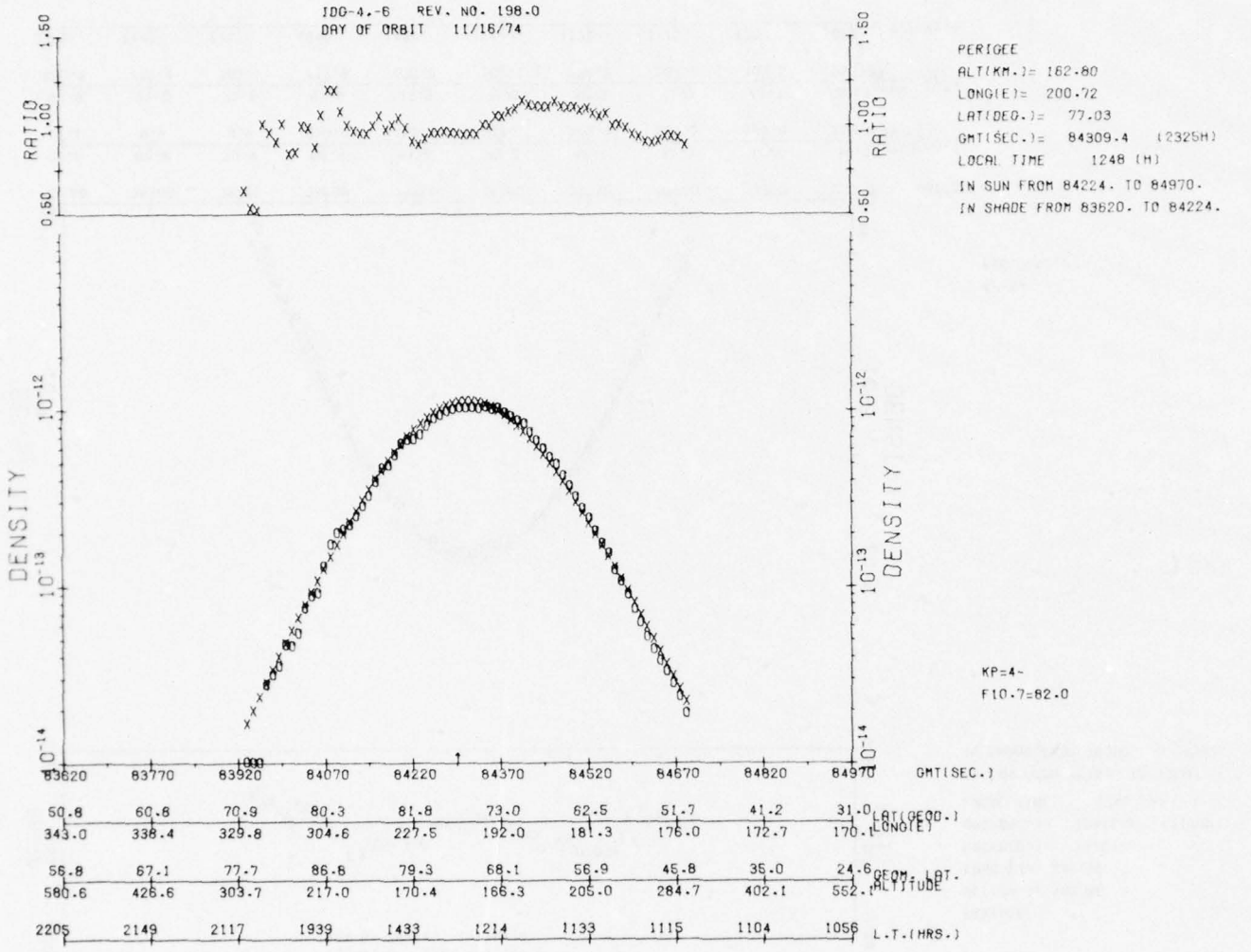
KP=2
F10.7=82.0

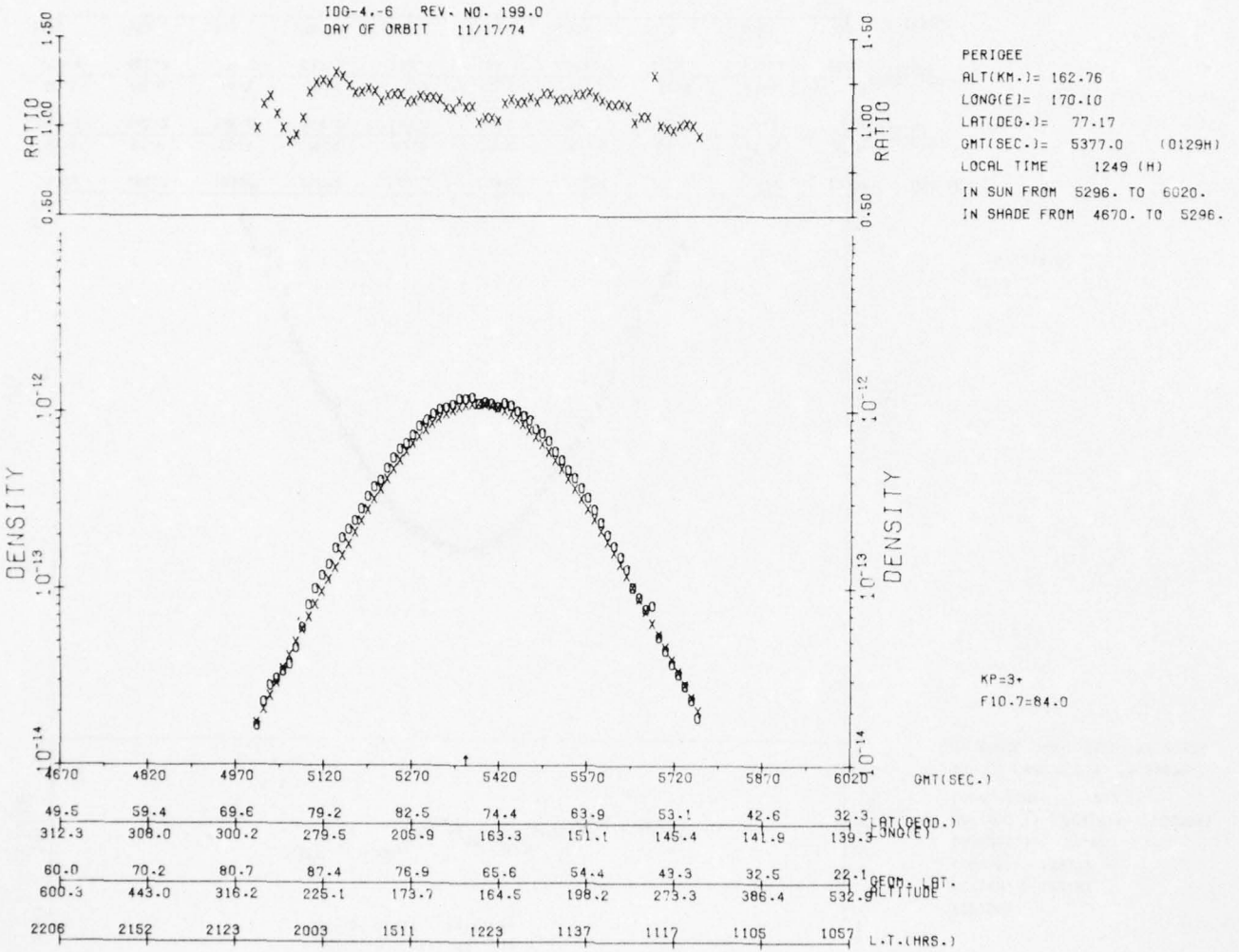


PERIGEE
ALT(KM.)= 162.85
LONG(E)= 231.52
LAT(DEG.)= 76.87
GMT(SEC.)= 76841.3 (2120H)
LOCAL TIME 1246 (H)

IN SUN FROM 76753. TO 77500.
IN SHADE FROM 76150. TO 76753.

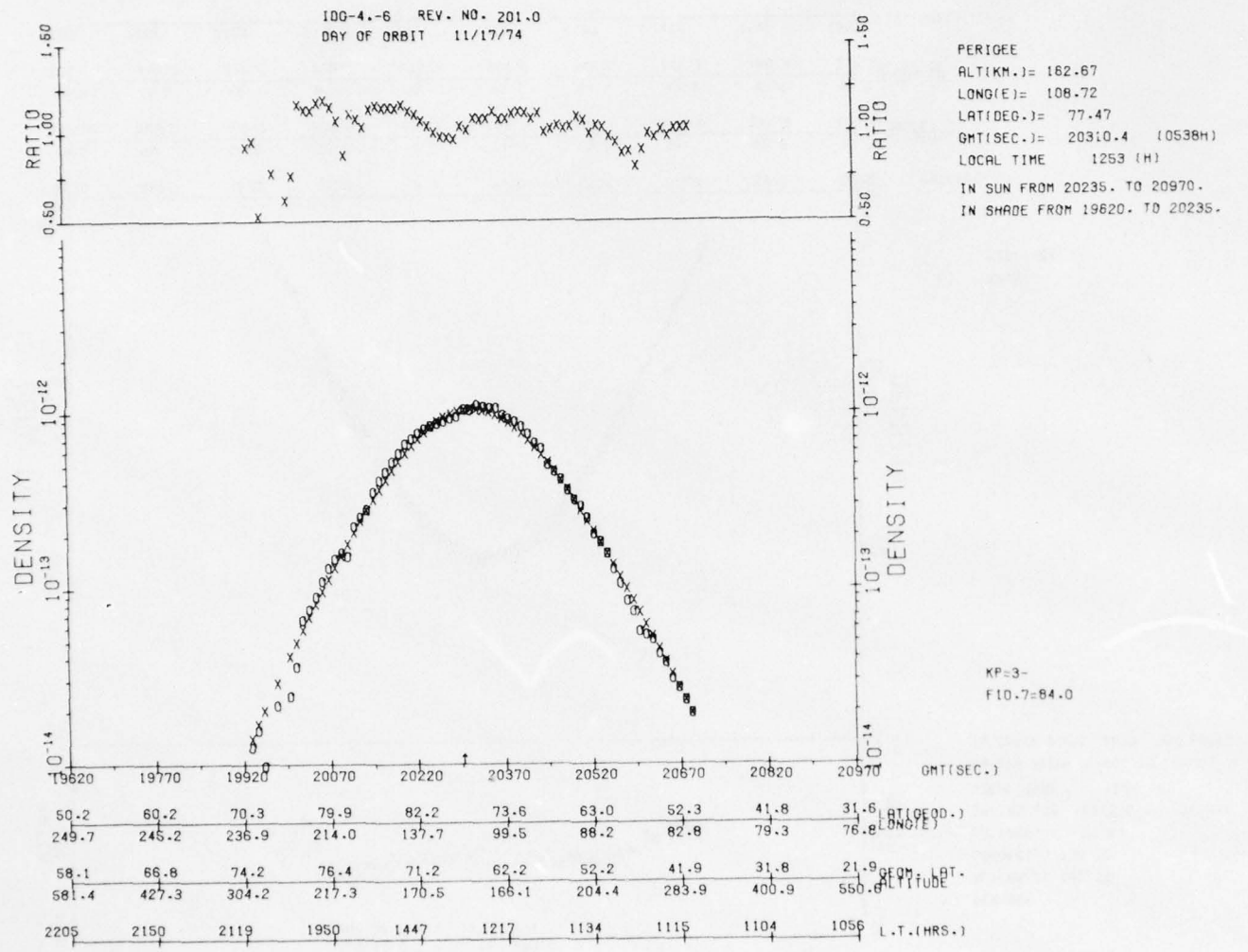
KP=3+
F10.7=82.0

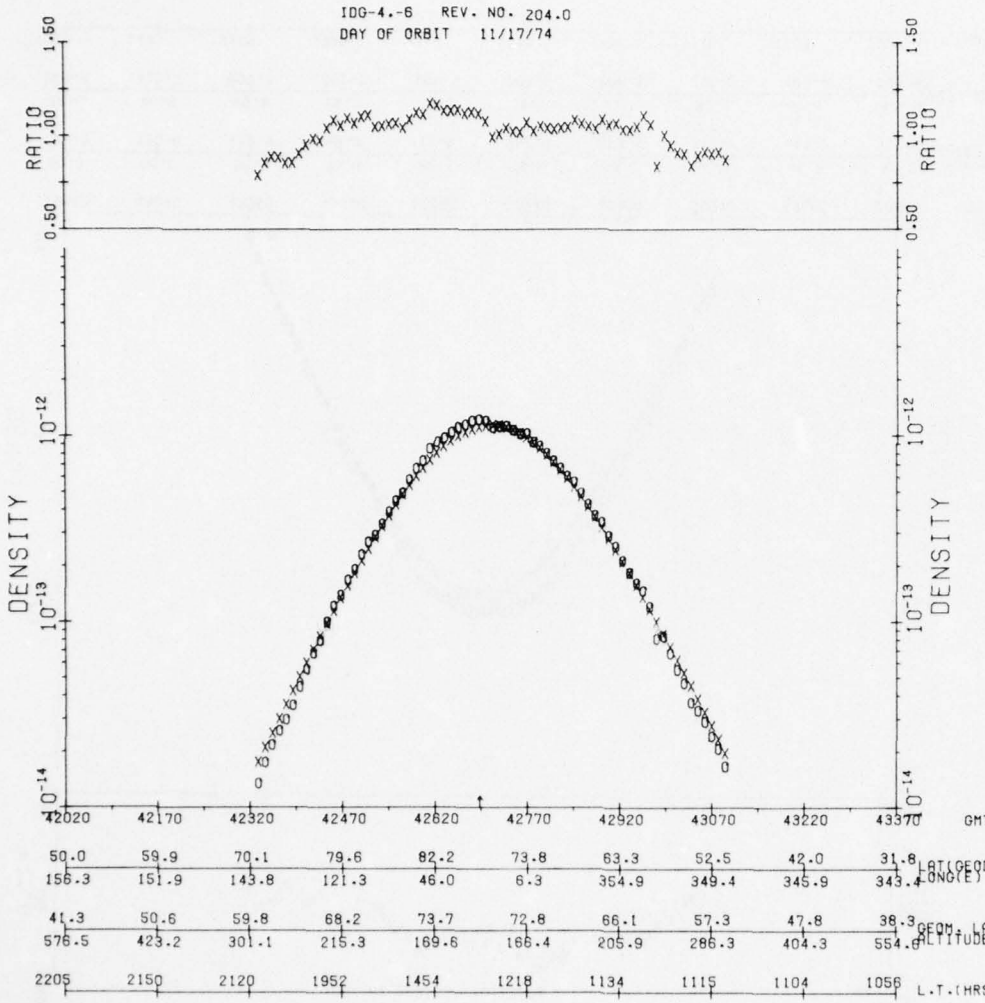

IDG-4.-6 REV. NO. 198.0
DAY OF ORBIT 11/16/74
RATIO
1.60
1.00
0.60
DENSITY
10^{-12}
10^{-13}
10^{-14}
PERIGEE
ALT(KM.)= 162.80
LONGI(E)= 200.72
LAT(DEG.)= 77.03
GMT(SEC.)= 84309.4 (2325H)
LOCAL TIME 1248 (H)
IN SUN FROM 84224. TO 84970.
IN SHADE FROM 83620. TO 84224.
KP=4-
F10.7=82.0
83620 83770 83920 84070 84220 84370 84520 84670 84820 84970 GMT(SEC.)
50.8 60.8 70.9 80.3 81.8 73.0 62.5 51.7 41.2 31.0 LAT(GEOD.)
343.0 338.4 329.8 304.6 227.5 192.0 181.3 176.0 172.7 170.1 LONGI(E)
56.8 67.1 77.7 86.8 79.3 68.1 56.9 45.8 35.0 24.6 GEOM. LAT.
580.6 426.6 303.7 217.0 170.4 166.3 205.0 284.7 402.1 552.1 ALTITUDE
2205 2149 2117 1939 1433 1214 1133 1115 1104 1056 L.T.(HRS.)



PERIGEE
ALT(KM.)= 162.76
LONG(E)= 170.10
LAT(DEG.)= 77.17
GMT(SEC.)= 5377.0 (0129H)
LOCAL TIME 1249 (H)
IN SUN FROM 5296. TO 6020.
IN SHADE FROM 4670. TO 5296.

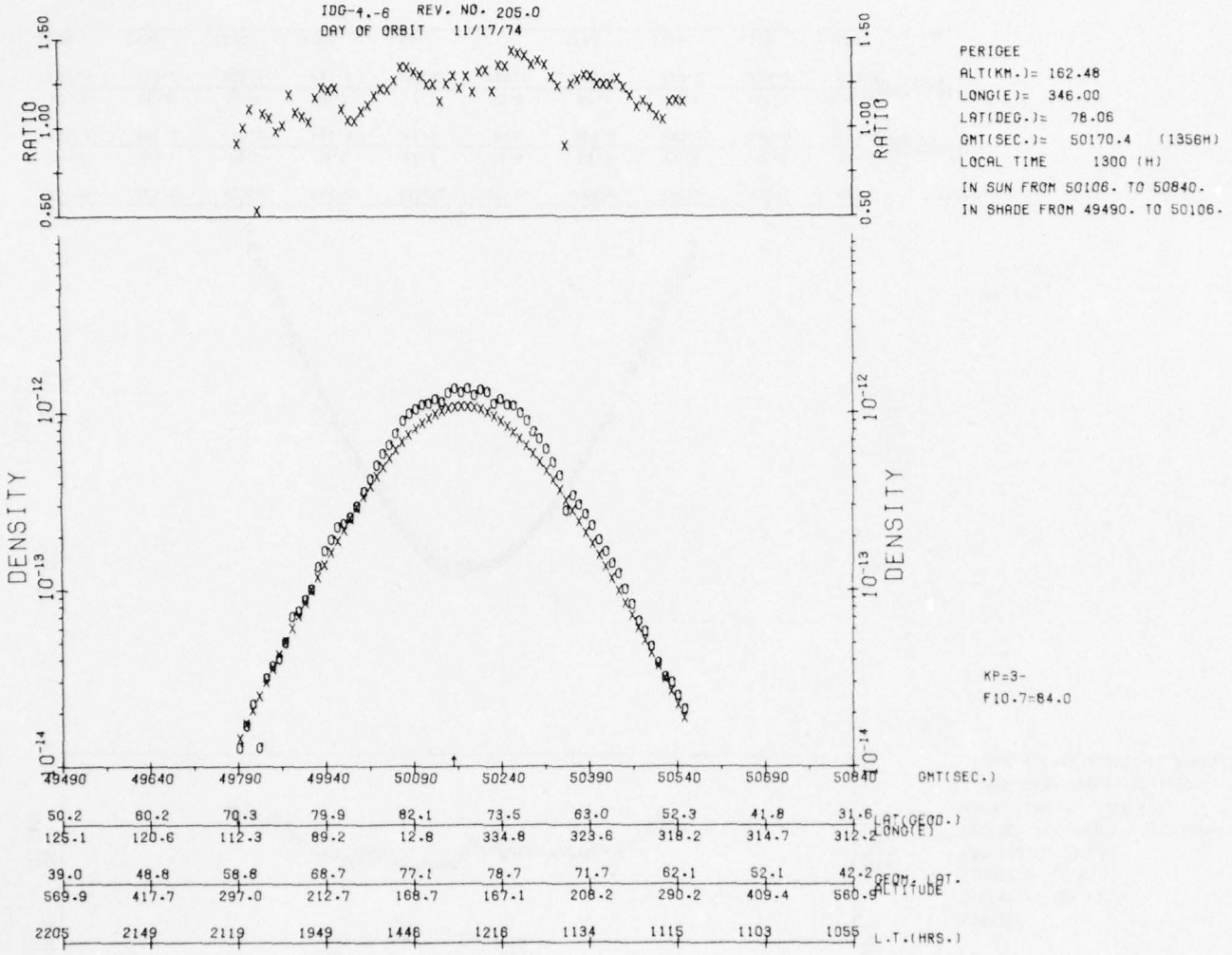
KP=3+
F10.7=84.0

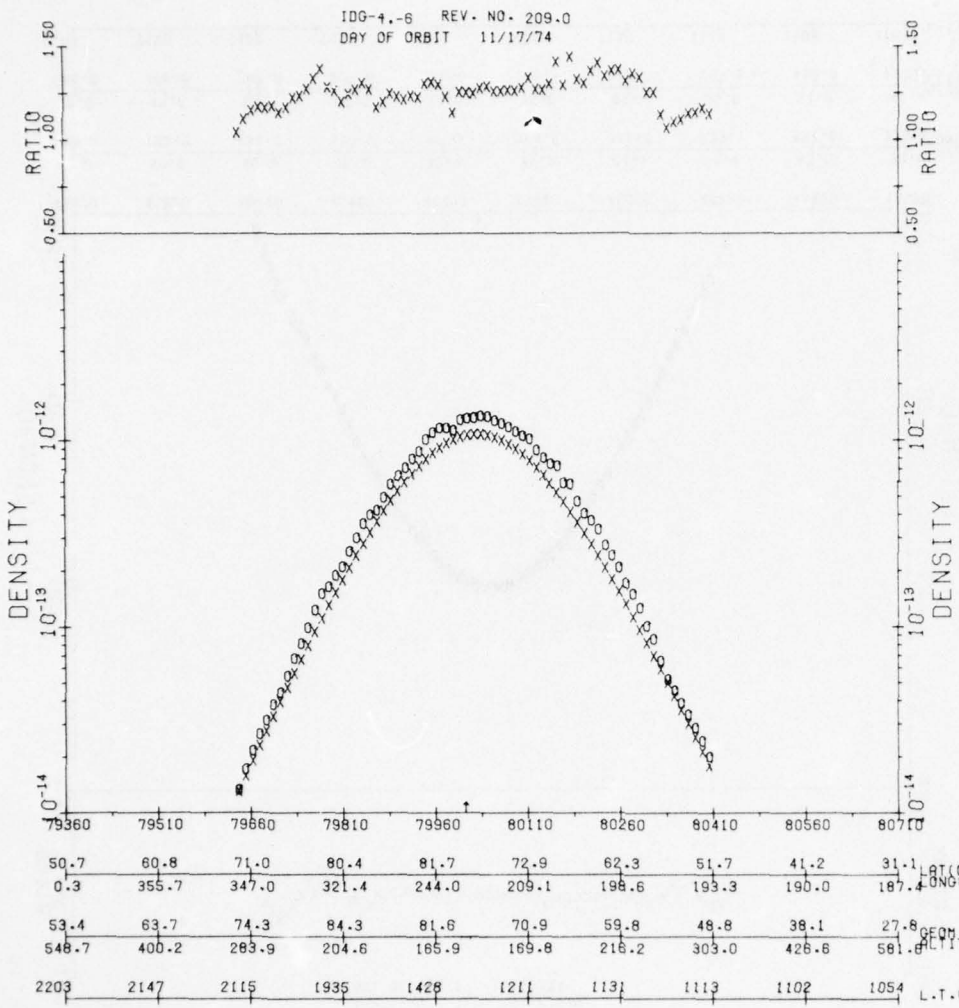

IDG-4.-6 REV. NO. 201.0
DAY OF ORBIT 11/17/74
RATIO
1.50
1.00
0.50
DENSITY
10^{-12}
10^{-13}
10^{-14}
PERIGEE
ALT(KM.)= 182.67
LONG(E)= 108.72
LAT(DEG.)= 77.47
GMT(SEC.)= 20310.4 (0538H)
LOCAL TIME 1253 (H)
IN SUN FROM 20235. TO 20970.
IN SHADE FROM 19620. TO 20235.
KP=3-
F10.7=84.0
19620 19770 19920 20070 20220 20370 20520 20670 20820 20970 GMT(SEC.)
50.2 60.2 70.3 79.9 82.2 73.6 63.0 52.3 41.8 31.6 LAT(GEOD.)
249.7 245.2 236.9 214.0 137.7 99.5 88.2 82.8 79.3 76.8 LONG(E)
58.1 66.8 74.2 76.4 71.2 62.2 52.2 41.9 31.8 21.9 GEOM. LAT.
581.4 427.3 304.2 217.3 170.5 166.1 204.4 283.9 400.9 550.8 ALTITUDE
2205 2150 2119 1950 1447 1217 1134 1115 1104 1056 L.T.(HRS.)



PERIGEE
ALT(KM.)= 162.53
LONG(E)= 16.65
LAT(DEG.)= 77.91
GMT(SEC.)= 42706.3 (1151H)
LOCAL TIME 1258 (H)
IN SUN FROM 42639. TO 43370.
IN SHADE FROM 42020. TO 42639.

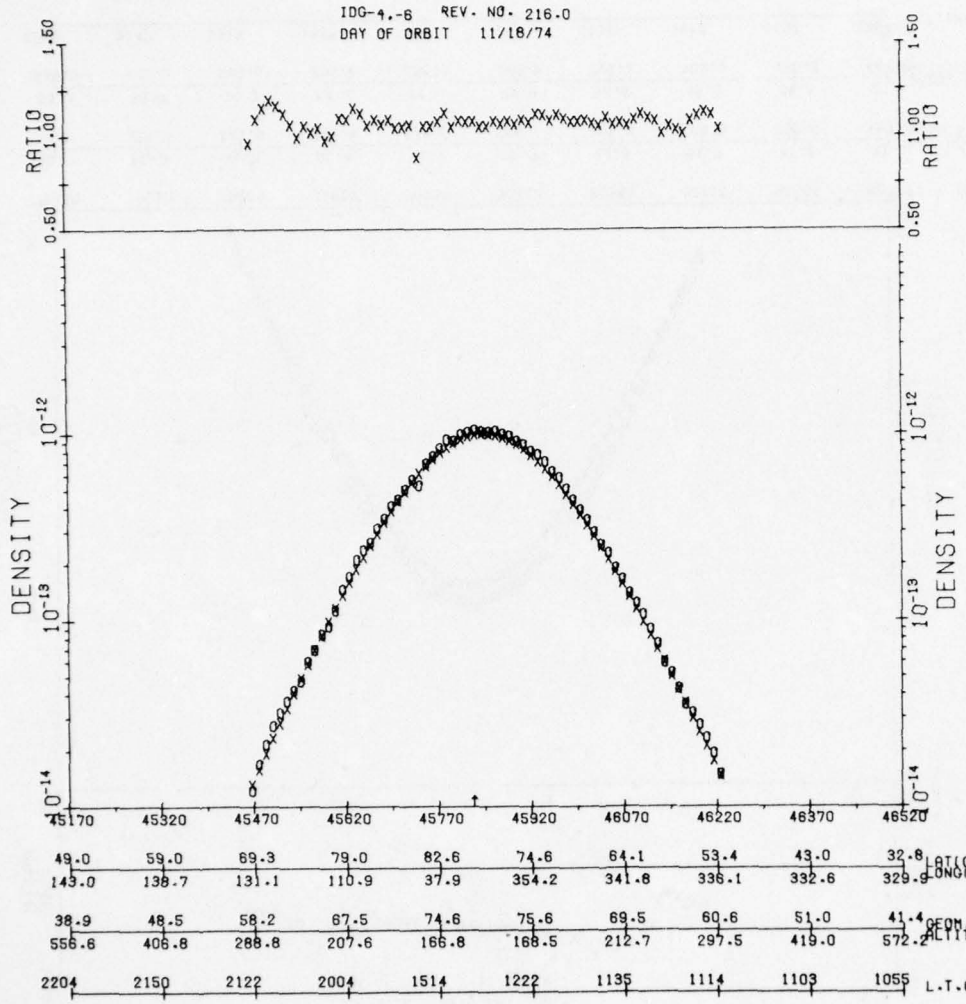
KP=4-
F10.7=84.0


IDG-4.-6 REV. NO. 205.0
DAY OF ORBIT 11/17/74
RATIO
1.50
1.00
0.50
DENSITY
10^{-12}
10^{-13}
10^{-14}
PERIGEE
ALT(KM.)= 162.48
LONG(E)= 346.00
LAT(DEG.)= 78.06
GMT(SEC.)= 50170.4 (1356H)
LOCAL TIME 1300 (H)
IN SUN FROM 50108. TO 50840.
IN SHADE FROM 49490. TO 50106.
KP=3-
F10.7=84.0
49490 49640 49790 49940 50090 50240 50390 50540 50690 50840 GMT(SEC.)
50.2 60.2 70.3 79.9 82.1 73.5 63.0 52.3 41.8 31.6 LAT(GEOD.)
125.1 120.6 112.3 89.2 12.8 334.8 323.6 318.2 314.7 312.2 LONG(E)
39.0 48.8 58.8 68.7 77.1 78.7 71.7 62.1 52.1 42.2 GEOM. LAT.
569.9 417.7 297.0 212.7 168.7 167.1 208.2 290.2 409.4 560.9 ALTITUDE
2205 2149 2119 1949 1446 1218 1134 1115 1103 1055 L.T.(HRS.)



PERIGEE
ALT(KM.)= 162.29
LONG(E)= 223.67
LAT(DEG.)= 78.62
GMT(SEC.)= 80021.4 (2213H)
LOCAL TIME 1308 (H)
IN SUN FROM 79967. TO 80710.
IN SHADE FROM 79360. TO 79967.

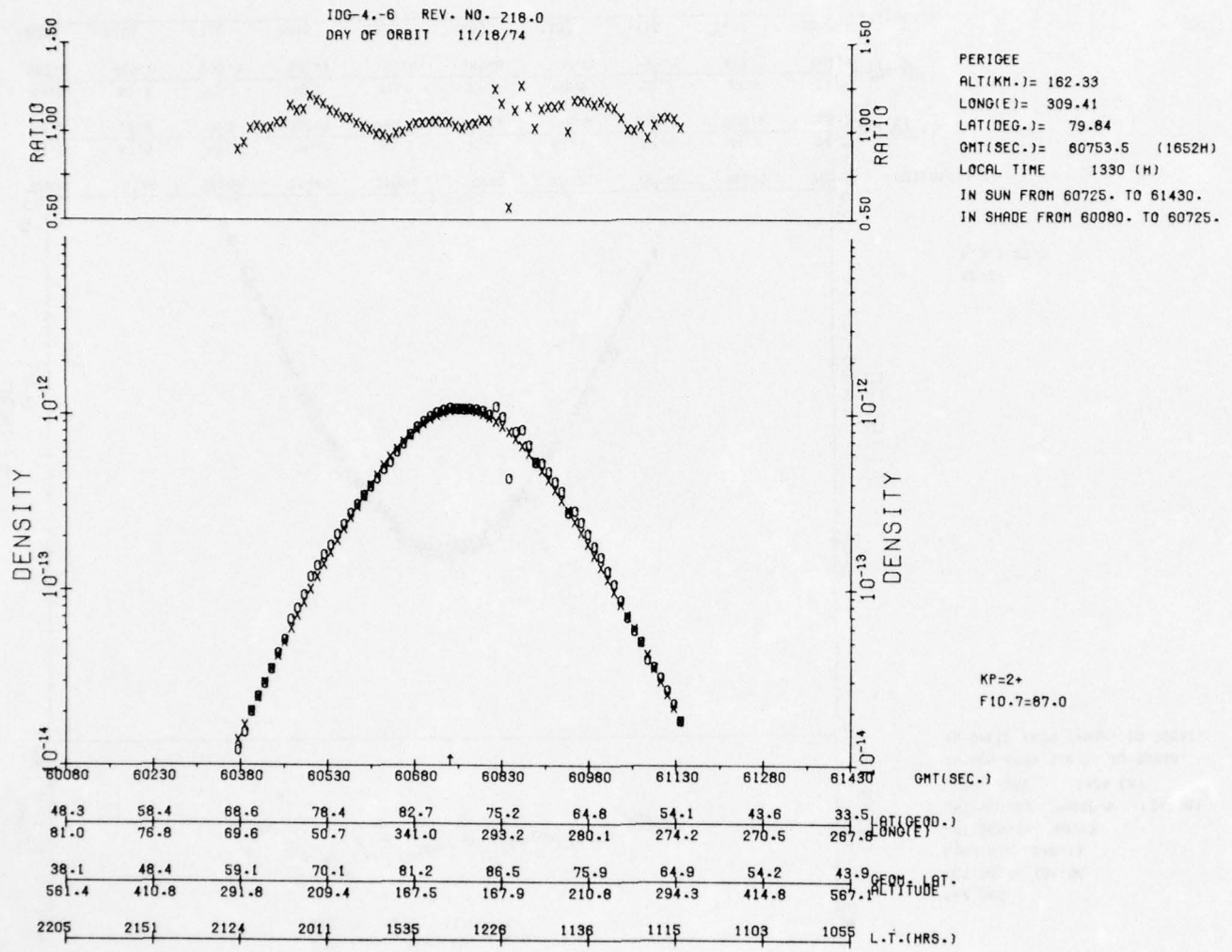
KP=2+
F10.7=84.0

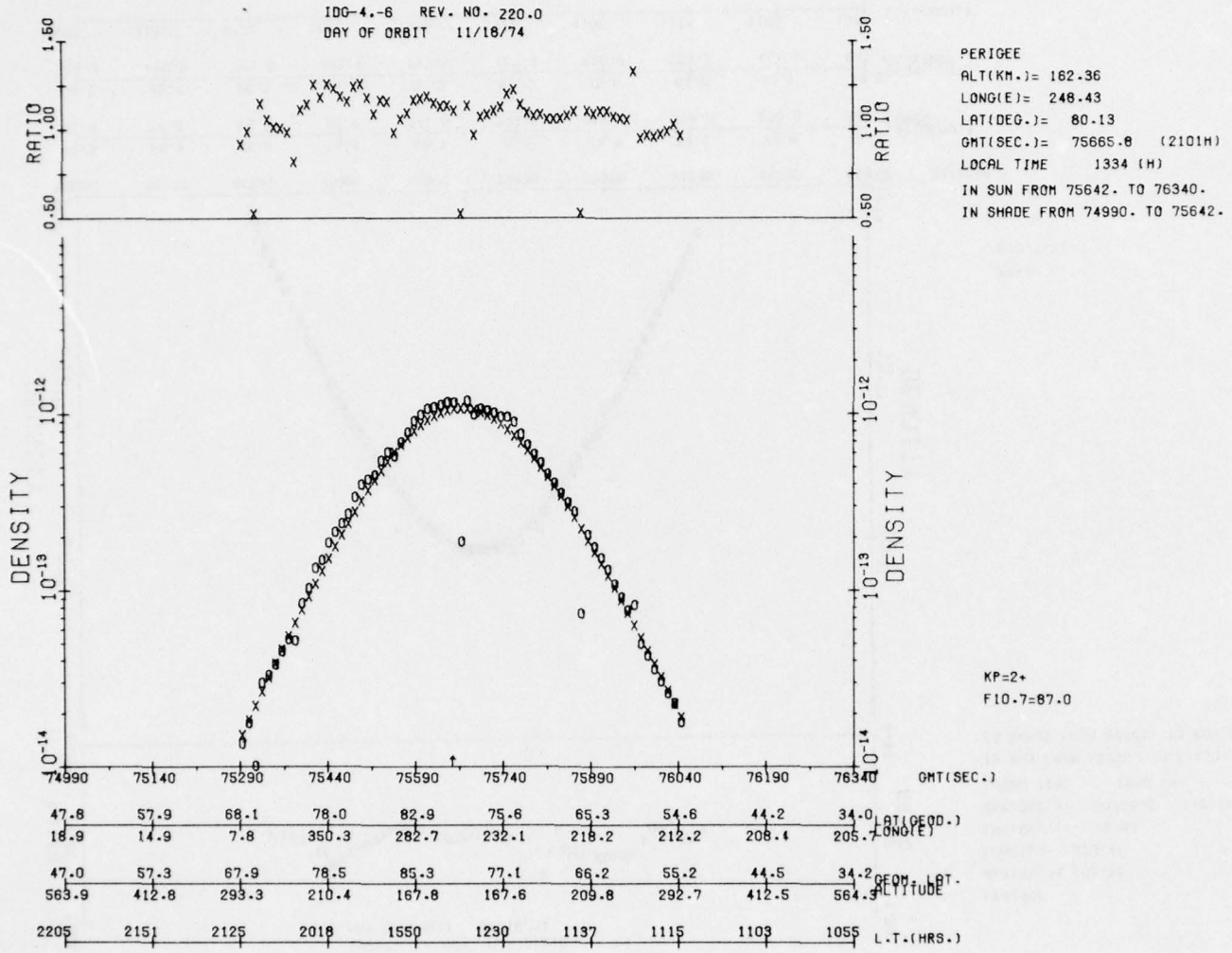


PERIGEE
ALT(KM.)= 162.29
LONG(E)= 9.89
LAT(DEG.)= 79.61
GMT(SEC.)= 45839.0 (1243H)
LOCAL TIME 1323 (H)

IN SUN FROM 45805. TO 46520.
IN SHADE FROM 45170. TO 45805.

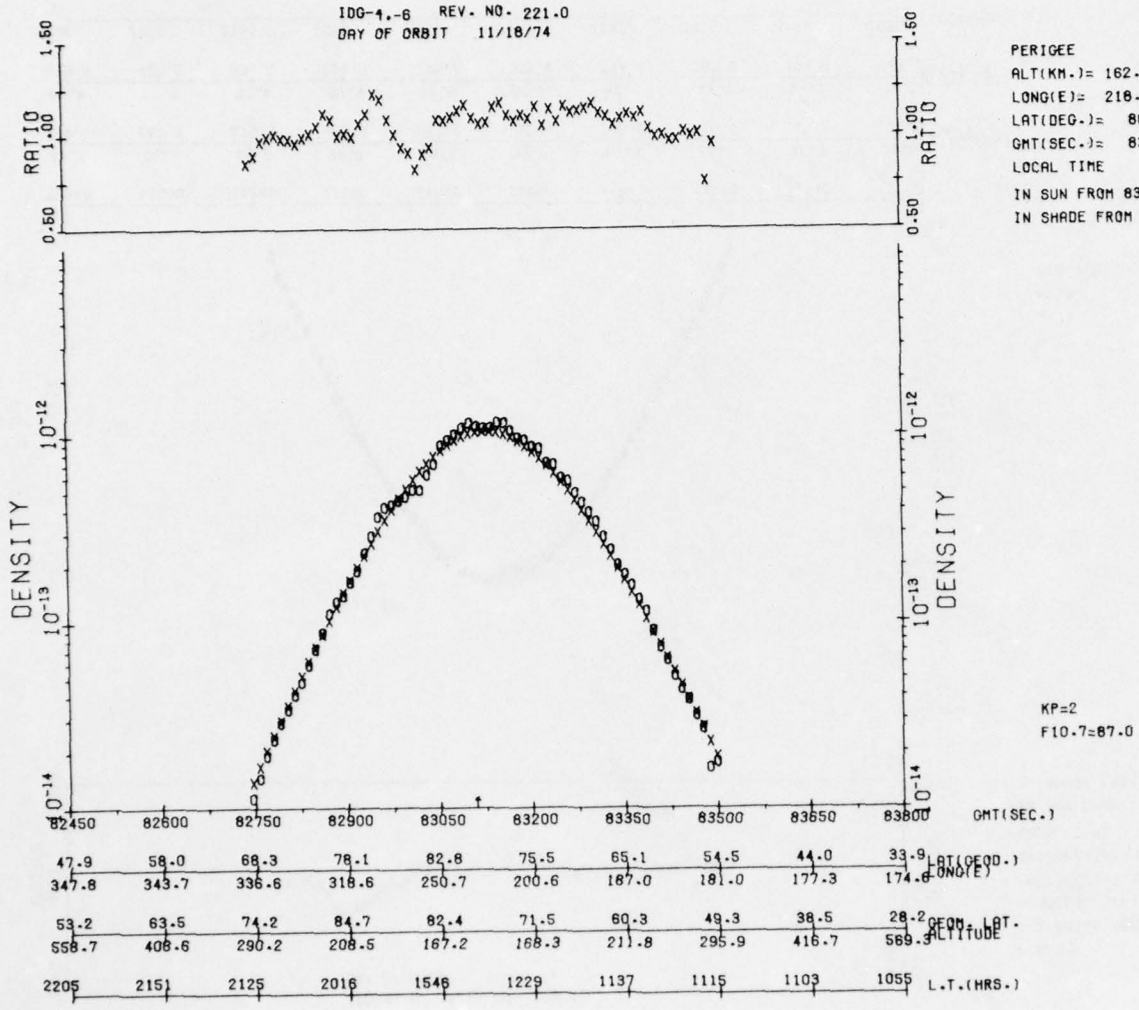
KP=1+
F10.7=87.0


IDG-4.-6 REV. NO. 218.0
DAY OF ORBIT 11/18/74
RATIO
1.50
1.00
0.50
DENSITY
10^{-12}
10^{-13}
10^{-14}
PERIGEE
ALT(KM.)= 162.33
LONG(E)= 309.41
LAT(DEG.)= 79.84
GMT(SEC.)= 60753.5 (1652H)
LOCAL TIME 1330 (H)
IN SUN FROM 60725. TO 61430.
IN SHADE FROM 60080. TO 60725.
KP=2+
F10.7=87.0
60080 60230 60380 60530 60680 60830 60980 61130 61280 61430 GMT(SEC.)
48.3 58.4 68.6 78.4 82.7 75.2 64.8 54.1 43.6 33.5 LAT(GEOD.)
81.0 76.8 69.6 50.7 341.0 293.2 280.1 274.2 270.5 267.8 LONG(E)
38.1 48.4 59.1 70.1 81.2 86.5 75.9 64.9 54.2 43.9 GEOM. LAT.
561.4 410.8 291.8 209.4 167.5 167.9 210.8 294.3 414.8 567.1 ALTITUDE
2205 2151 2124 2011 1535 1226 1136 1115 1103 1055 L.T.(HRS.)



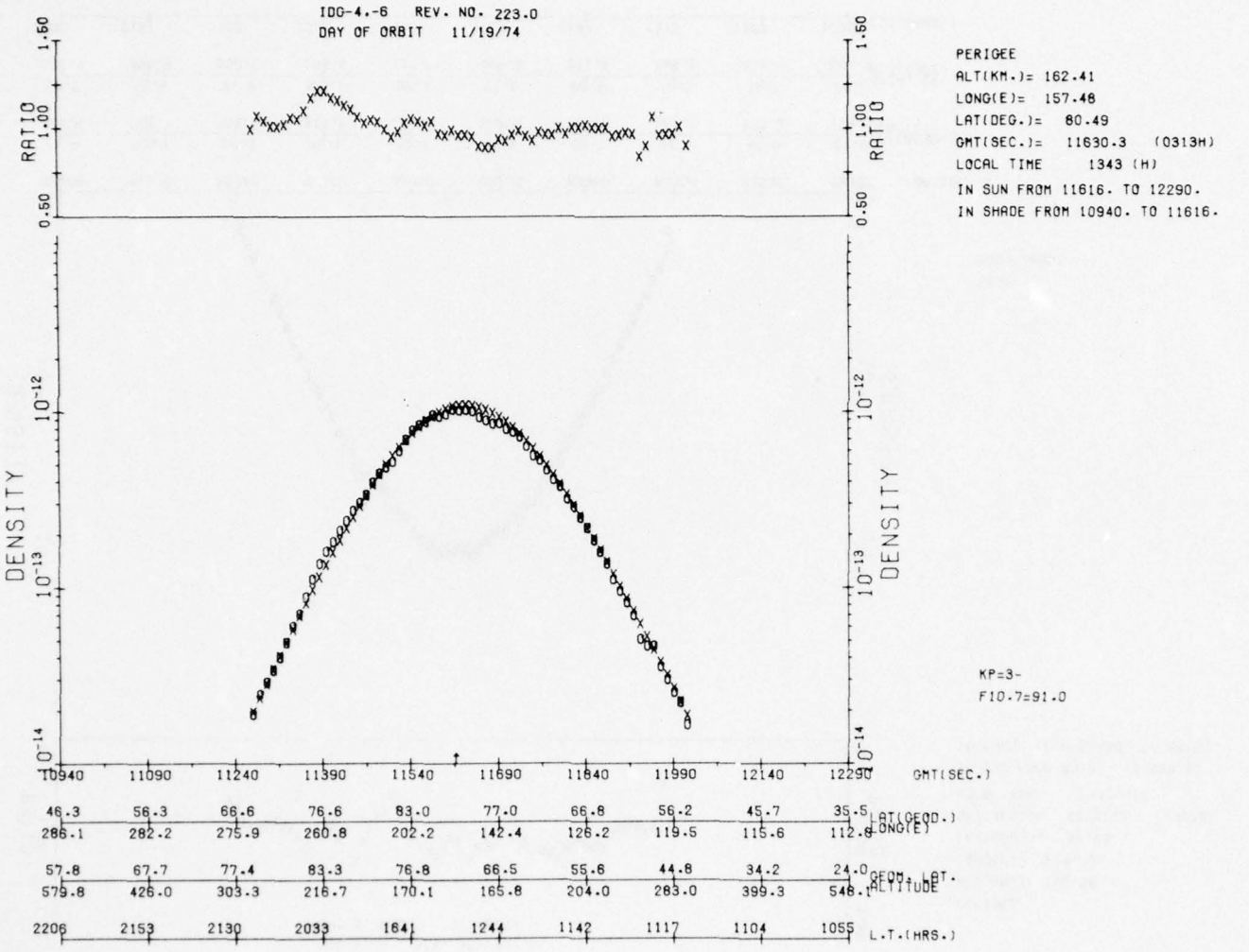
PERIGEE
ALT(KM.)= 162.36
LONG(E)= 248.43
LAT(DEG.)= 80.13
GMT(SEC.)= 75665.8 (2101H)
LOCAL TIME 1334 (H)
IN SUN FROM 75642. TO 76340.
IN SHADE FROM 74990. TO 75642.

KP=2+
F10.7=87.0



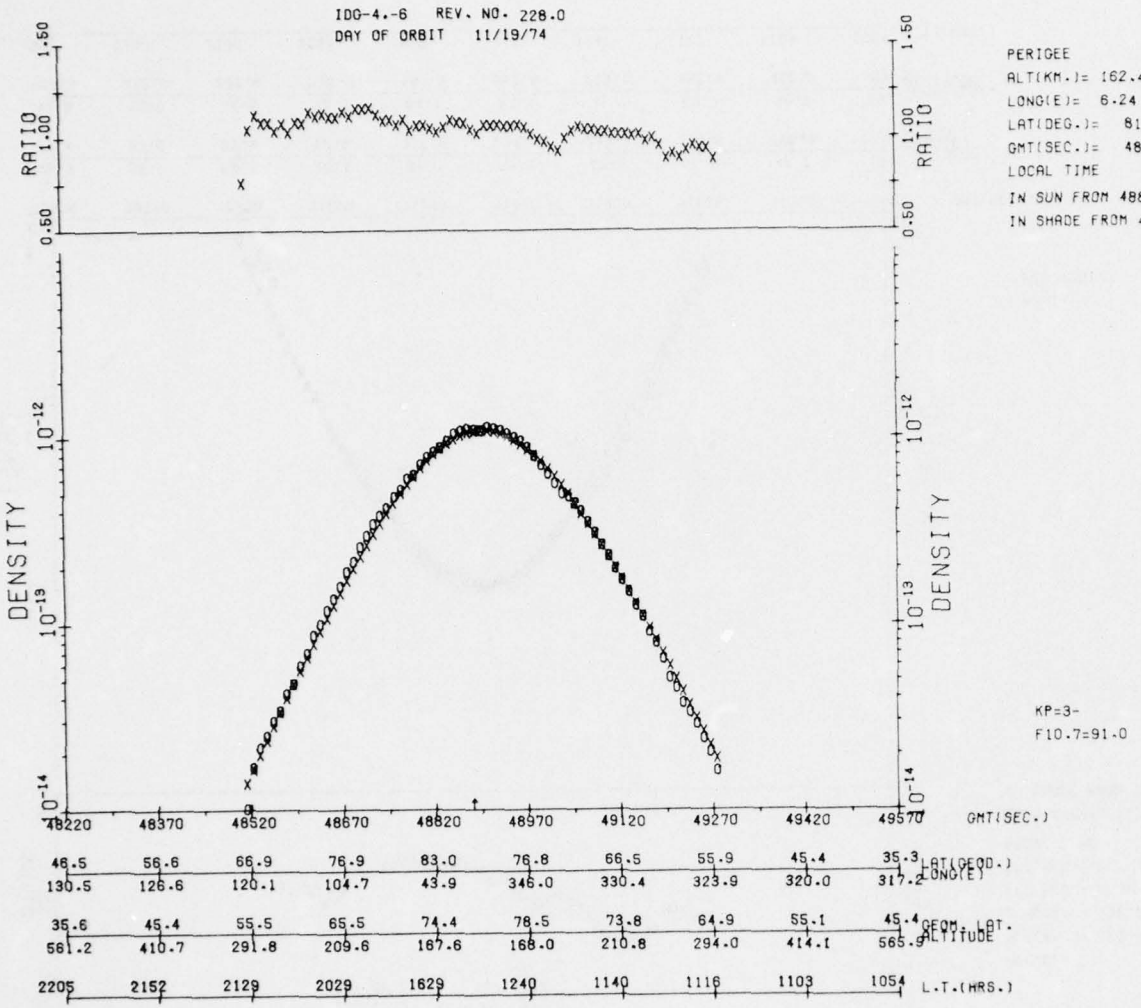
PERIGEE
ALT(KM.)= 162.38
LONG(E)= 218.33
LAT(DEG.)= 80.23
GMT(SEC.)= 83121.2 (2305H)
LOCAL TIME 1338 (H)
IN SUN FROM 83100. TO 83800.
IN SHADE FROM 82450. TO 83100.

KP=2
F10.7=87.0



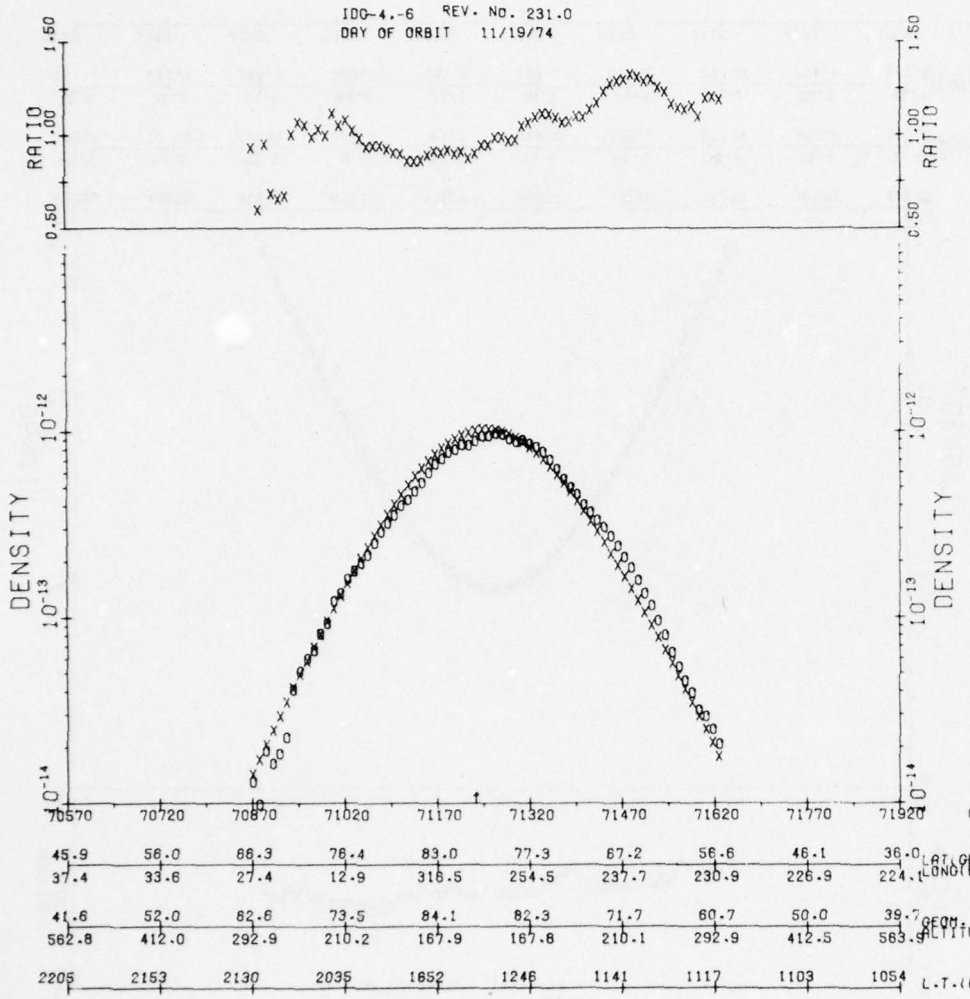
PERIGEE
ALT(KM.)= 162.41
LONG(E)= 157.48
LAT(DEG.)= 80.49
GMT(SEC.)= 11630.3 (0313H)
LOCAL TIME 1343 (H)
IN SUN FROM 11616. TO 12290.
IN SHADE FROM 10940. TO 11616.

KP=3-
F10.7=91.0



PERIGEE
ALT(KM.)= 162.48
LONG(E)= 6.24
LAT(DEG.)= 81.09
GMT(SEC.)= 48893.6 (1334H)
LOCAL TIME 1359 (H)
IN SUN FROM 48892. TO 49570.
IN SHADE FROM 48220. TO 48892.

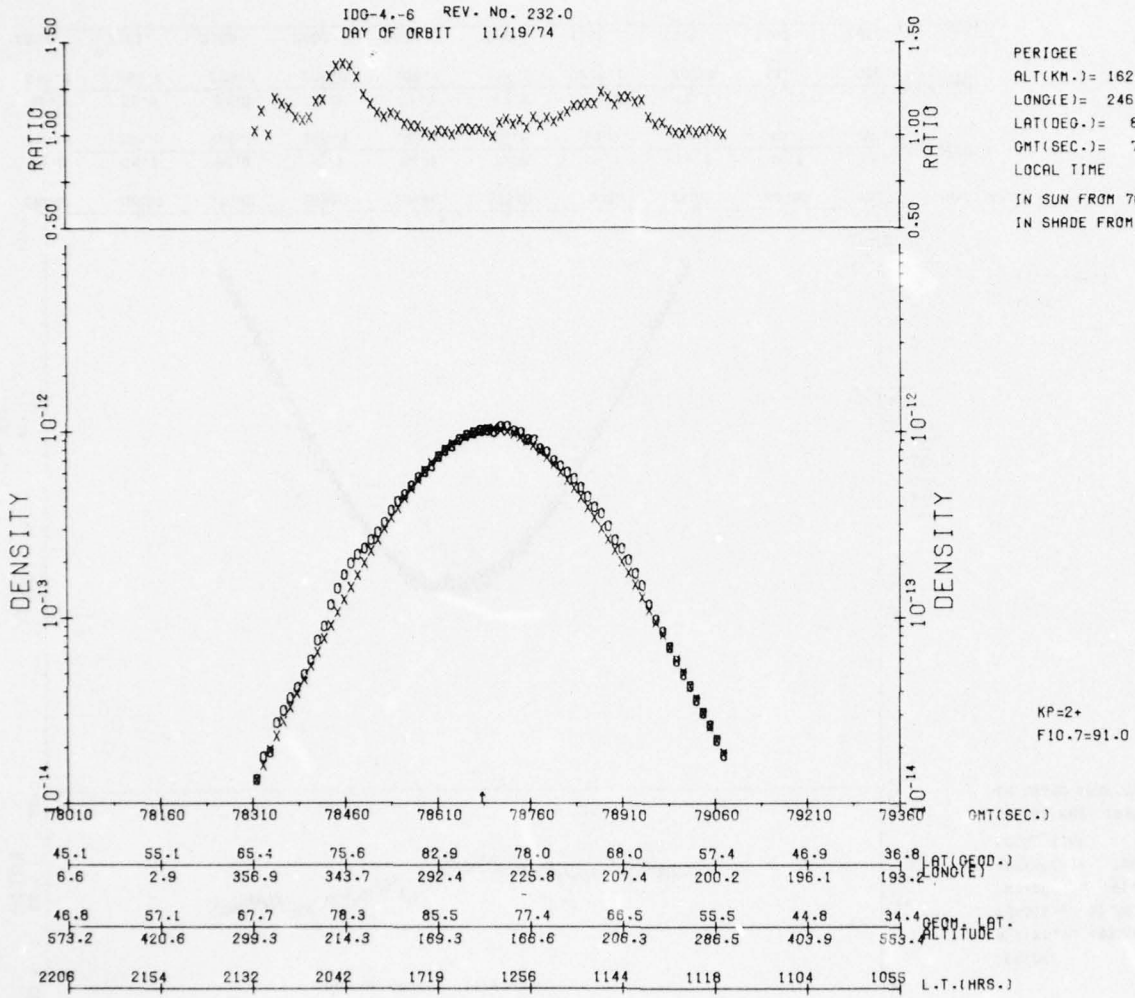
KP=3-
F10.7=91.0



PERIGEE
ALT(KM.)= 162.53
LONG(E)= 276.20
LAT(DEG.)= 81.37
GMT(SEC.)= 71245.2 (1947H)
LOCAL TIME 1412 (H)

IN SUN FROM 71251. TO 71920.
IN SHADE FROM 70570. TO 71251.

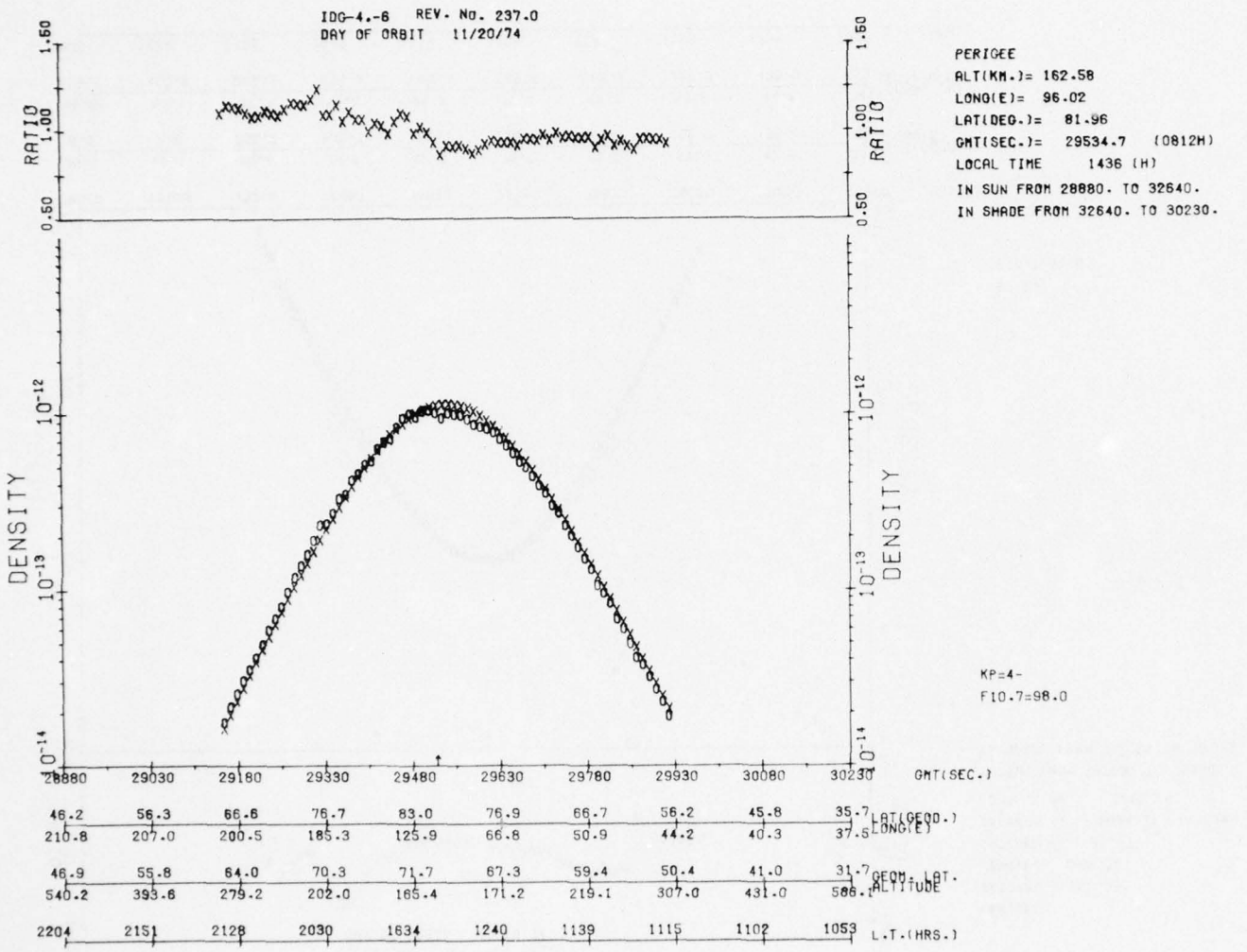
KP=2+
F10.7=91.0

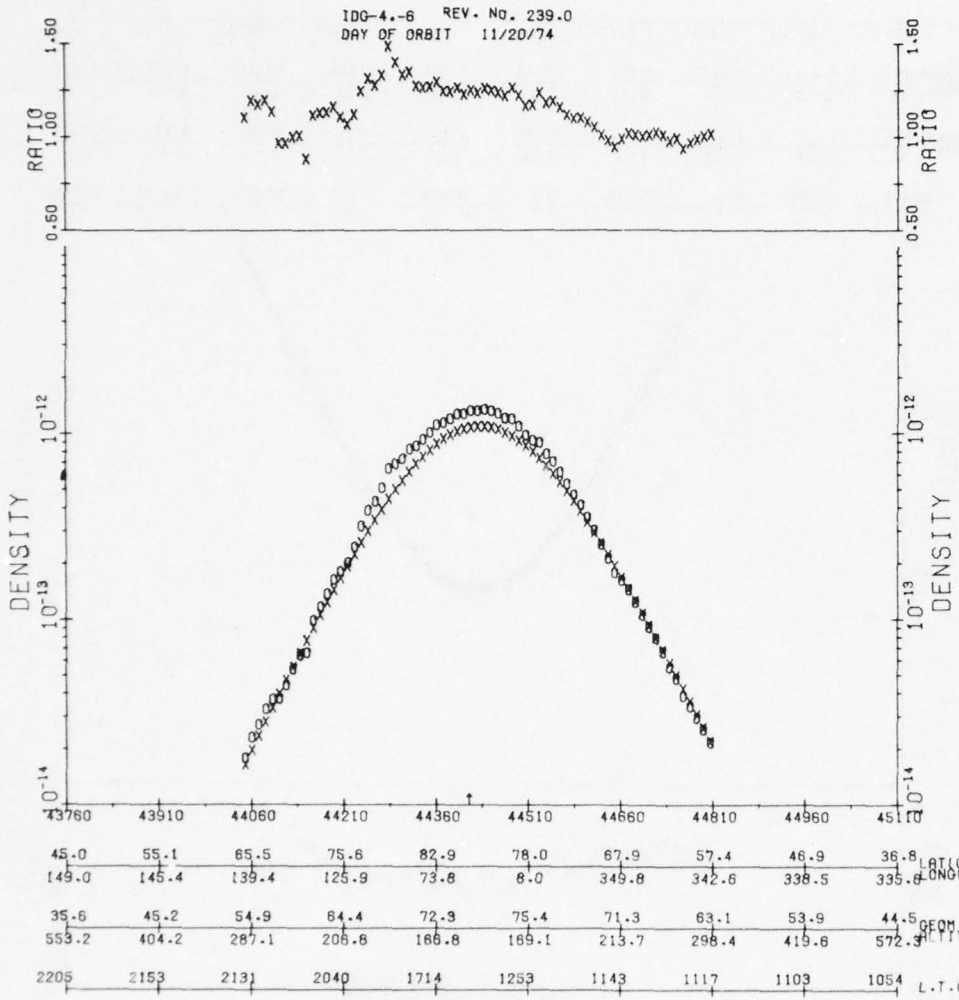


PERIGEE
ALT(KM.)= 162.54
LONG(E)= 246.02
LAT(DEG.)= 81.47
GMT(SEC.)= 78694.7 (2151H)
LOCAL TIME 1415 (H)

IN SUN FROM 78703. TO 79360.
IN SHADE FROM 78010. TO 78703.

KP=2+
F10.7=91.0


IDG-4.-6 REV. No. 237.0
DAY OF ORBIT 11/20/74
RATIO
1.50
1.00
0.50
DENSITY
10^{-12}
10^{-13}
10^{-14}
PERIGEE
ALT(KM.)= 162.58
LONG(E)= 96.02
LAT(DEG.)= 81.96
GMT(SEC.)= 29534.7 (0812H)
LOCAL TIME 1436 (H)
IN SUN FROM 28880. TO 32640.
IN SHADE FROM 32640. TO 30230.
KP=4-
F10.7=98.0
28880 29030 29180 29330 29480 29630 29780 29930 30080 30230 GMT(SEC.)
46.2 56.3 66.6 76.7 83.0 76.9 66.7 56.2 45.8 35.7 LAT(GEOD.)
210.8 207.0 200.5 185.3 125.9 66.8 50.9 44.2 40.3 37.5 LONG(E)
46.9 55.8 64.0 70.3 71.7 67.3 59.4 50.4 41.0 31.7 GEOM. LAT.
540.2 393.6 279.2 202.0 165.4 171.2 219.1 307.0 431.0 588.1 ALTITUDE
2204 2151 2128 2030 1634 1240 1139 1115 1102 1053 L.T.(HRS.)



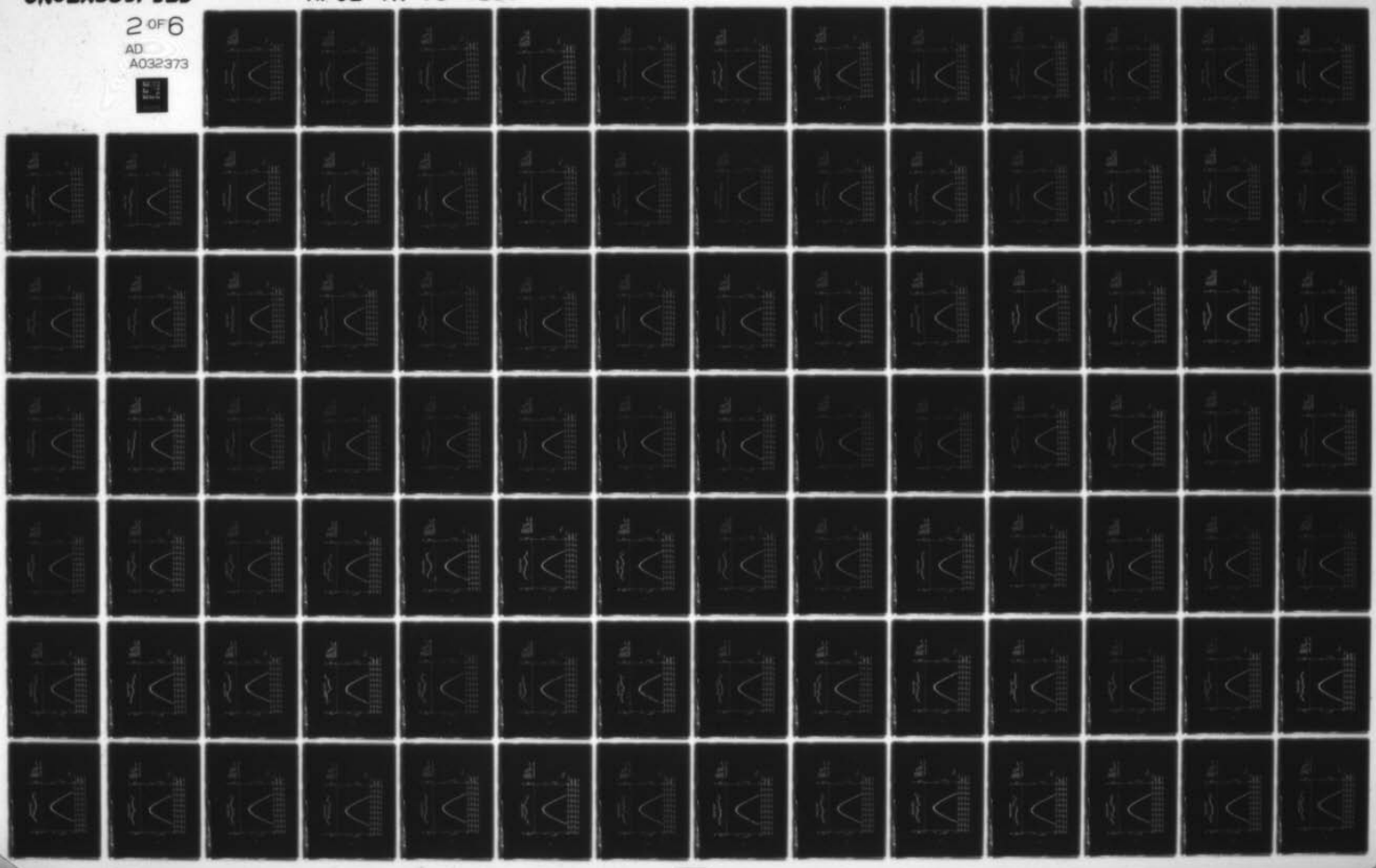
PERIGEE
ALT(KM.)= 162.59
LONG(E)= 36.12
LAT(DEG.)= 82.11
GMT(SEC.)= 44426.8 (1220H)
LOCAL TIME 1444 (H)

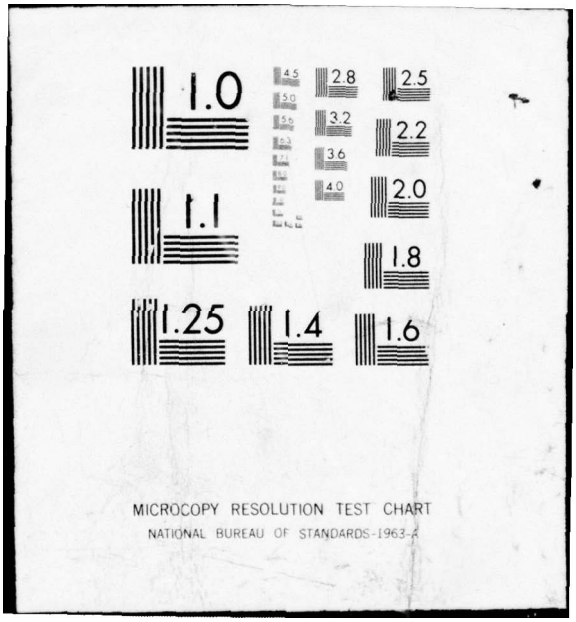
IN SUN FROM 44454. TO 45110.
IN SHADE FROM 43760. TO 44454.

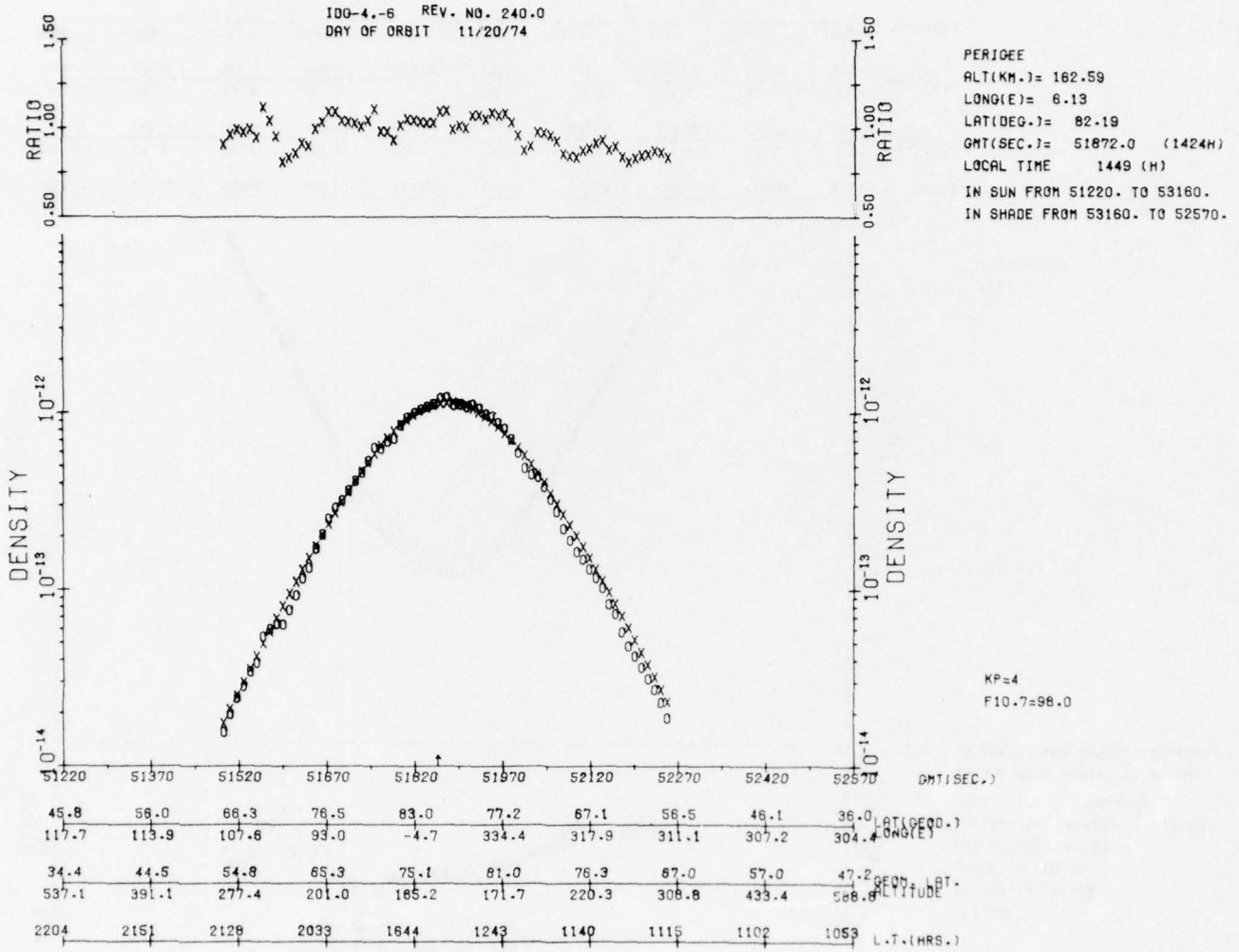
KP=4-
F10.7=98.0

AD-A032 373 AIR FORCE GEOPHYSICS LAB HANSCOM AFB MASS F/G 4/1
IONIZATION GAUGE MEASUREMENTS OF ATMOSPHERIC DENSITY FROM A LOW--ETC(U)
MAY 76 J P MCISAAC, K S CHAMPION
UNCLASSIFIED AFGL-TR-76-0113 NL

2 OF 6
AD
A032373

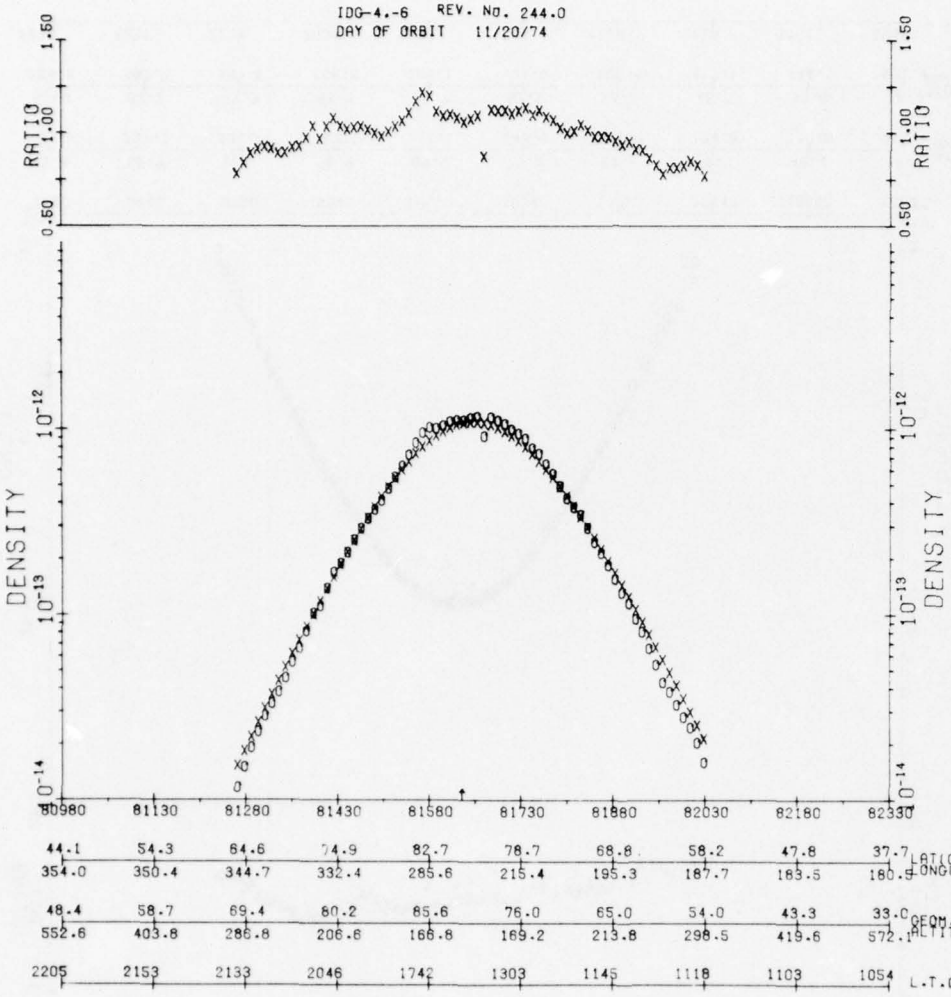



1.0
1.1
1.25
1.4
1.6
1.8
2.0
2.2
2.5
2.8
3.2
3.6
4.0
4.5
5.0
5.6
MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS-1963-A



PERIGEE
ALT(KM.)= 162.59
LONG(E)= 6.13
LAT(DEG.)= 82.19
GMT(SEC.)= 51872.0 (1424H)
LOCAL TIME 1449 (H)
IN SUN FROM 51220. TO 53160.
IN SHADE FROM 53160. TO 52570.

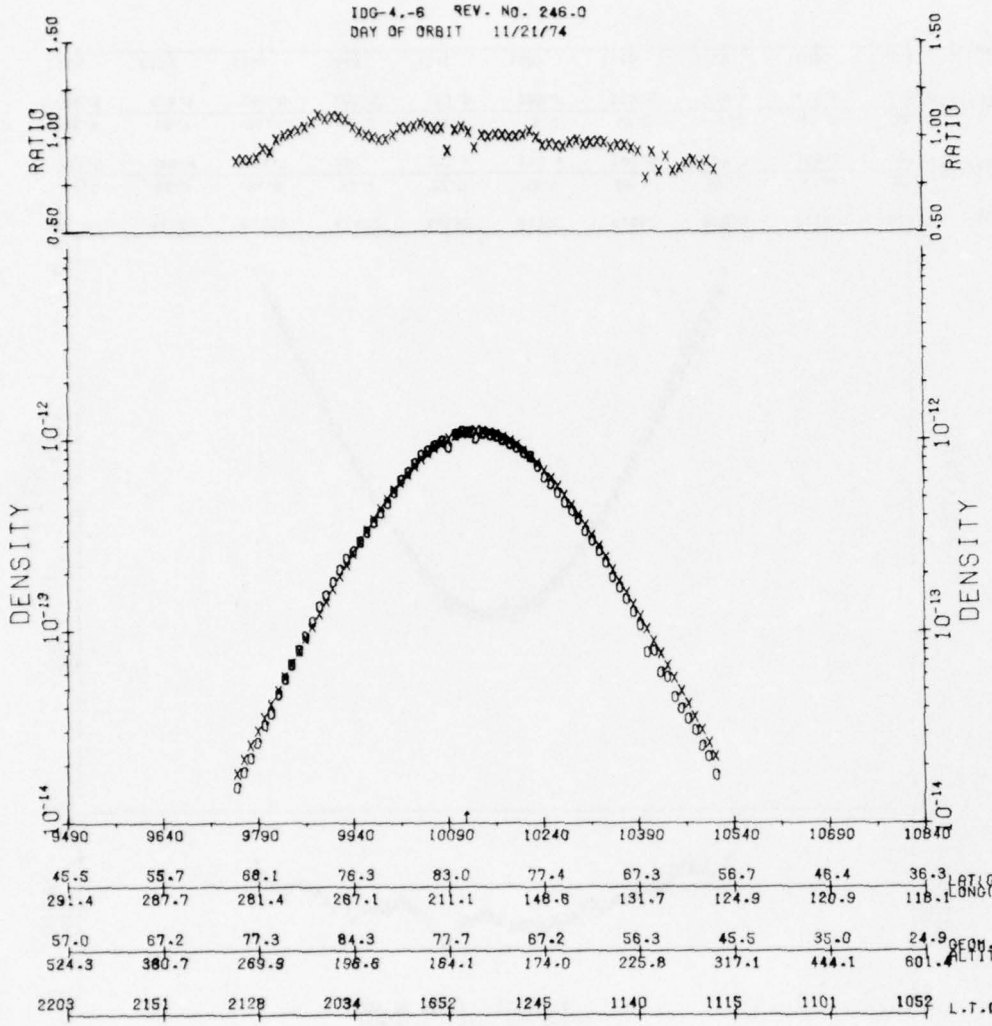
KP=4
F10.7=98.0



PERIGEE
ALT(KM.)= 162.61
LONG(E)= 246.57
LAT(DEG.)= 82.51
GMT(SEC.)= 81646.5 (2240H)
LOCAL TIME 1507 (H)

IN SUN FROM 80980. TO 82920.
IN SHADE FROM 82920. TO 82330.

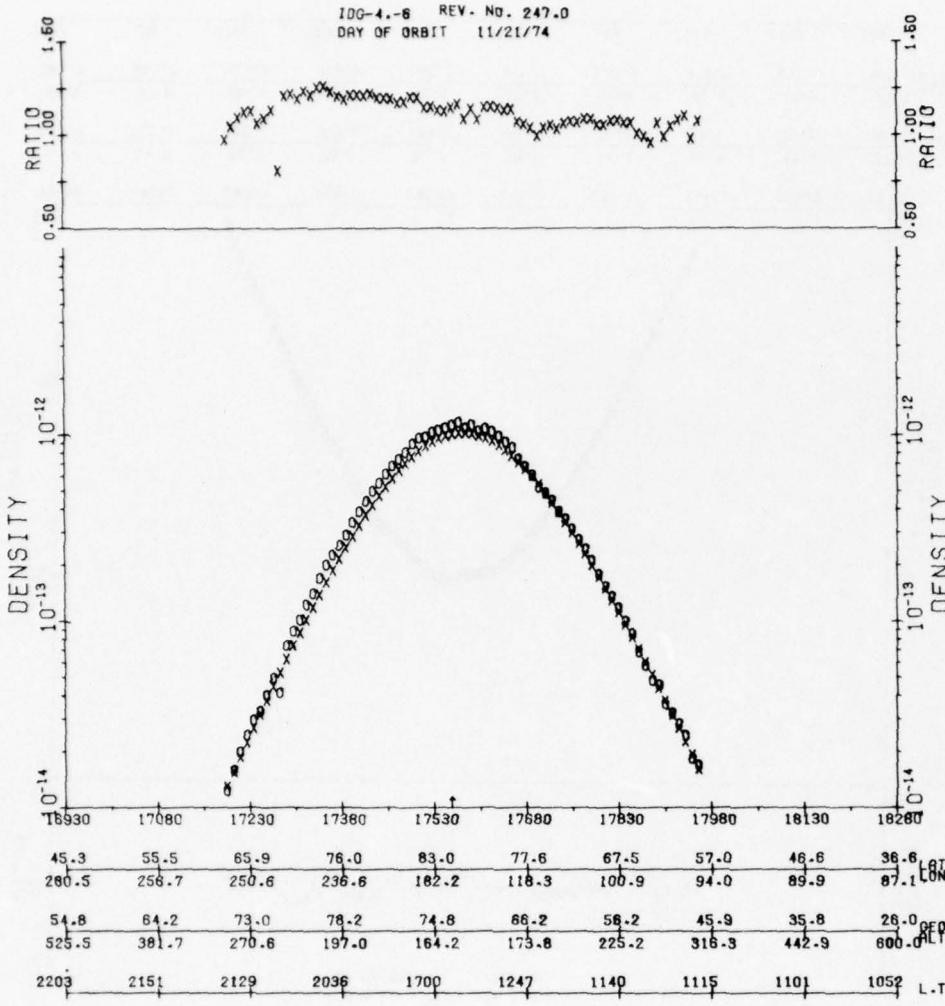
KP=4-
F10.7=98.0



PERIGEE
ALT(KM.)= 162.61
LONG(E)= 187.08
LAT(DEG.)= 82.65
GMT(SEC.)= 10130.2 (0248H)
LOCAL TIME 1517 (H)

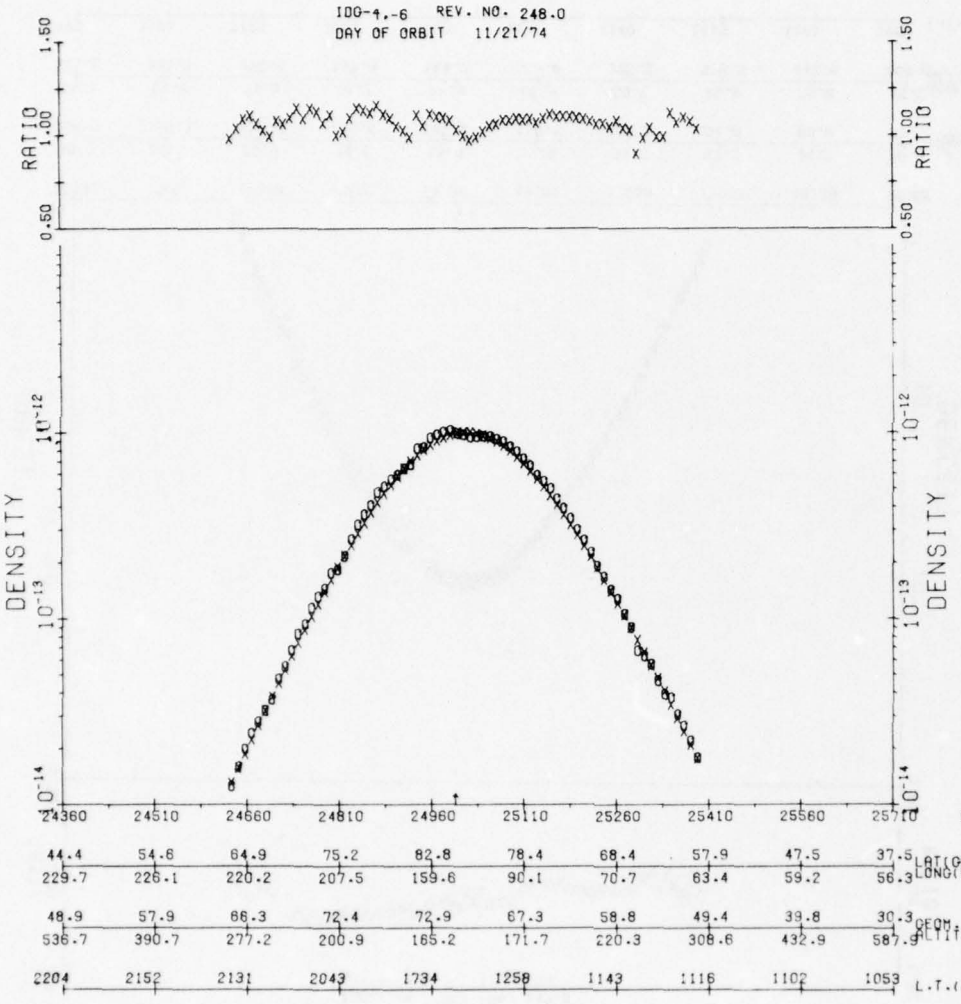
IN SUN FROM 10176. TO 10840.
IN SHADE FROM 9490. TO 10176.

KP=4+
F10.7=98.0



PERIGEE
ALT(KM.)= 162.62
LONG(E)= 157.39
LAT(DEG.)= 82.71
GMT(SEC.)= 17571.3 (0452H)
LOCAL TIME 1522 (H)
IN SUN FROM 16930. TO 18840.
IN SHADE FROM 18840. TO 18280.

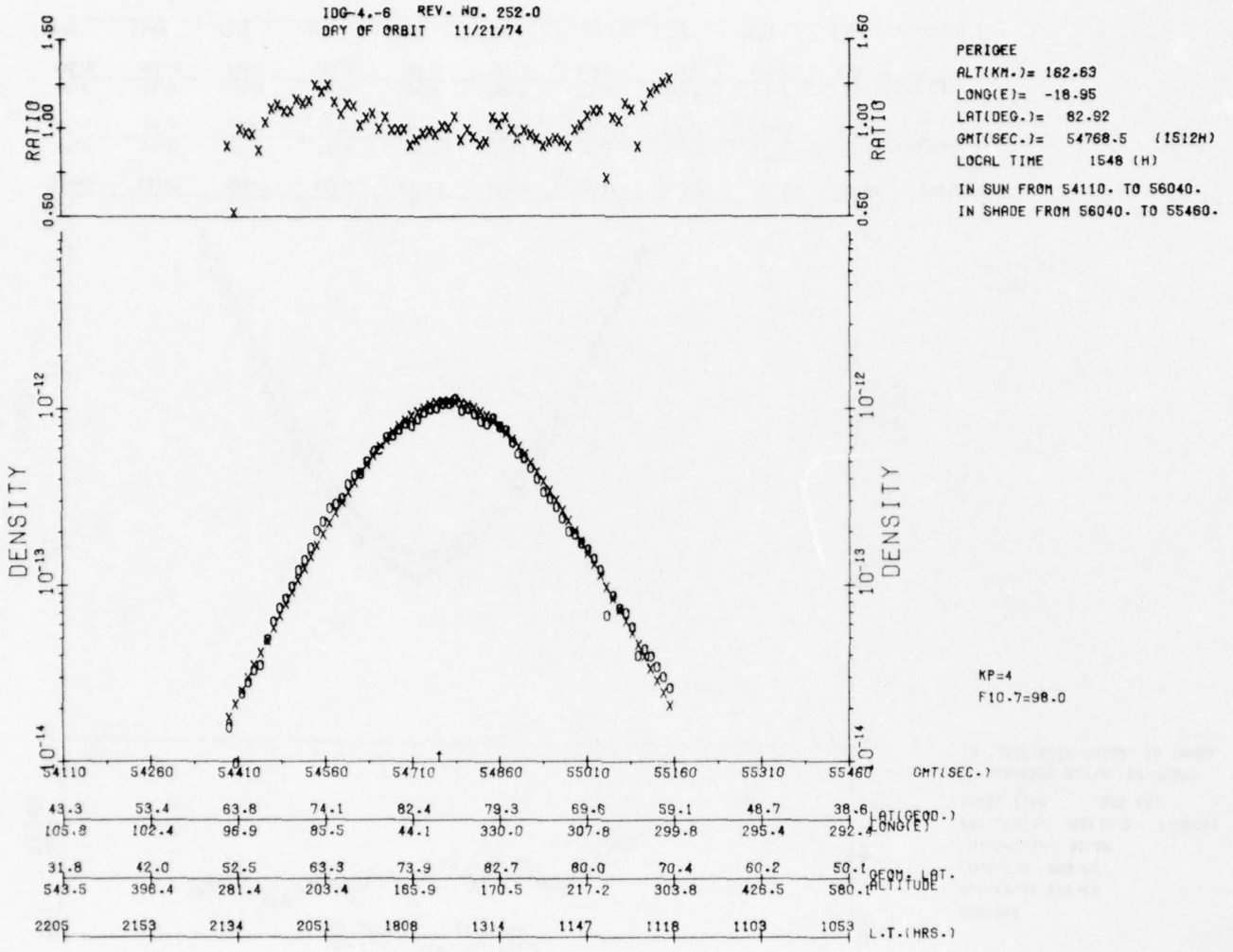
KP=2-
F10.7=98.0



PERIGEE
ALT(KM.)= 162.62
LONG(E)= 127.71
LAT(DEG.)= 82.76
GMT(SEC.)= 25011.9 (0656H)
LOCAL TIME 1527 (H)

IN SUN FROM 24360. TO 26280.
IN SHADE FROM 26280. TO 25710.

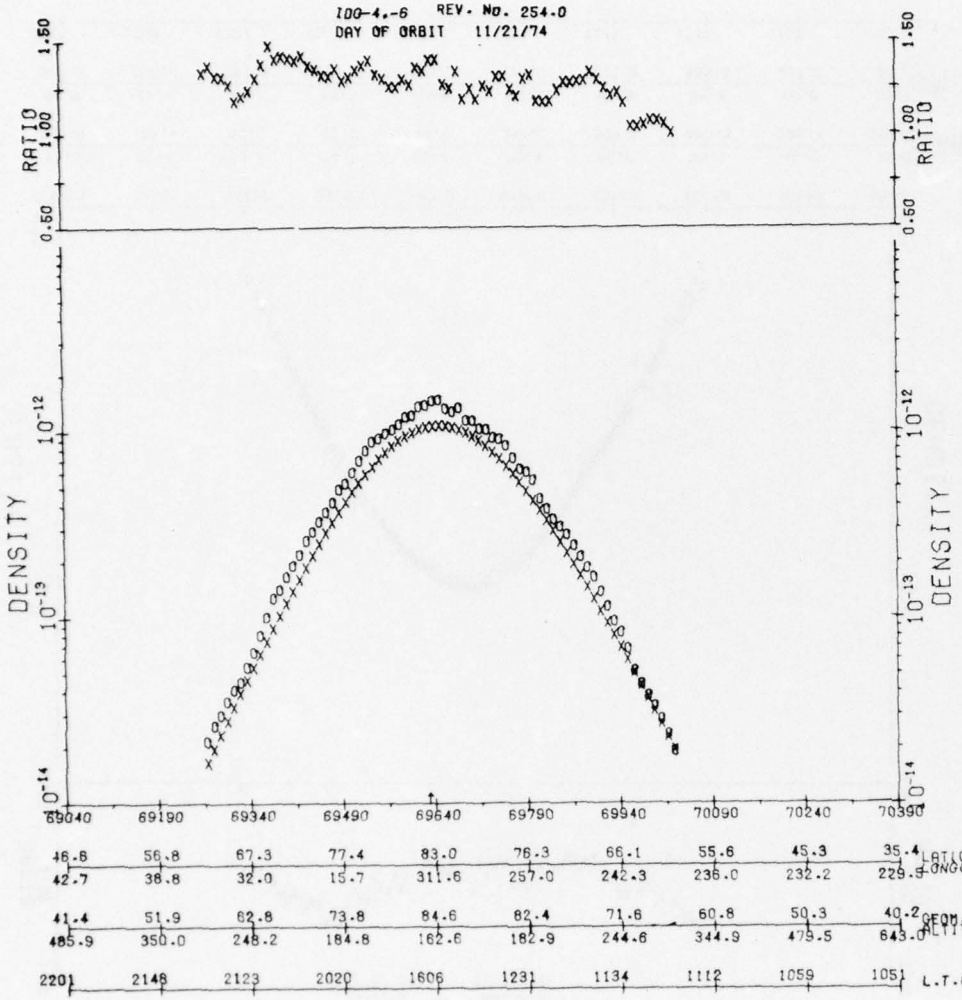
KP=2-
F10.7=98.0



PERIGEE
ALT(KM.)= 162.63
LONG(E)= -18.95
LAT(DEG.)= 82.92
GMT(SEC.)= 54768.5 (1512H)
LOCAL TIME 1548 (H)

IN SUN FROM 54110. TO 56040.
IN SHADE FROM 56040. TO 55460.

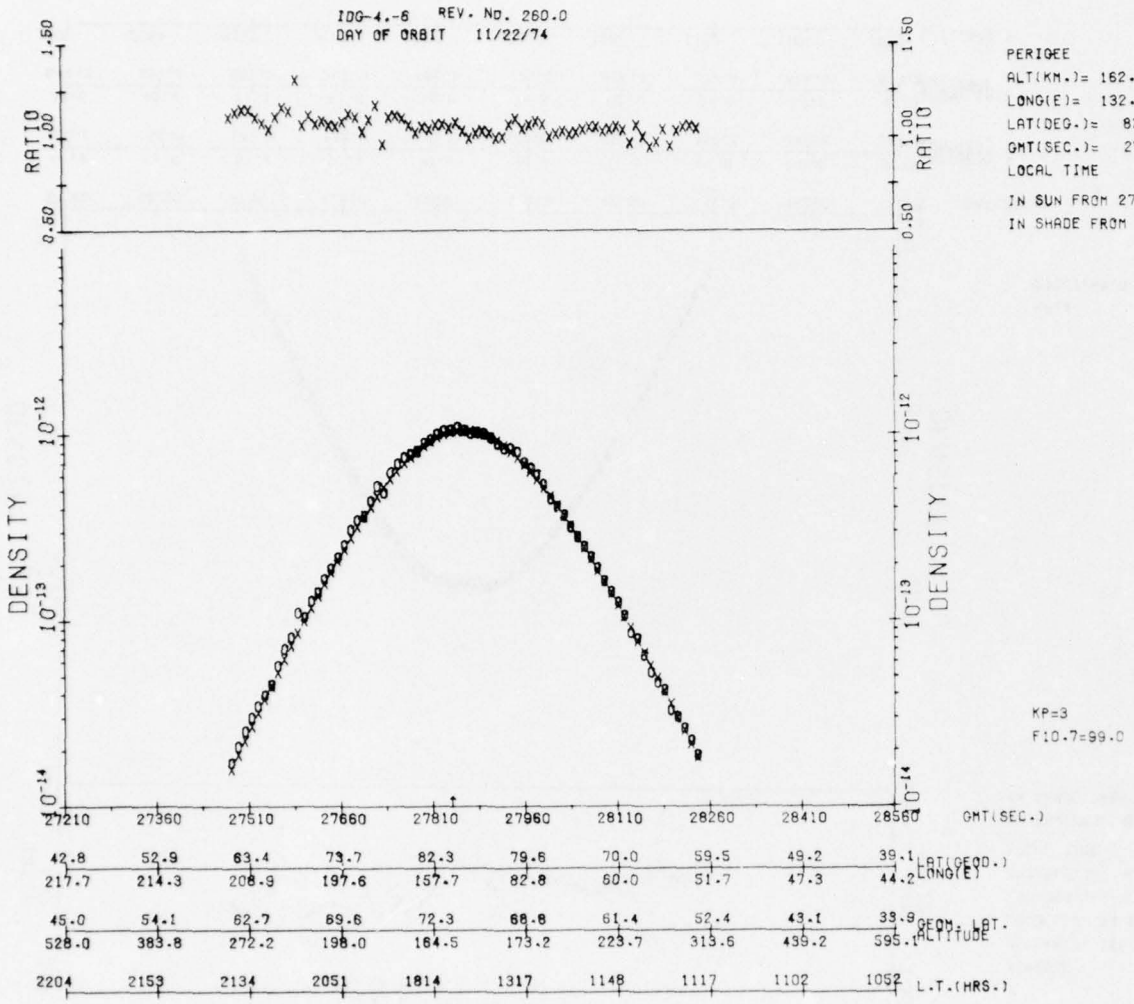
KP=4
F10.7=98.0



PERIGEE
ALT(KM.)= 162.63
LONG(E)= 309.65
LAT(DEG.)= 82.98
GMT(SEC.)= 69643.3 (1920H)
LOCAL TIME 1559 (H)

IN SUN FROM 69040. TO 70920.
IN SHADE FROM 70920. TO 70390.

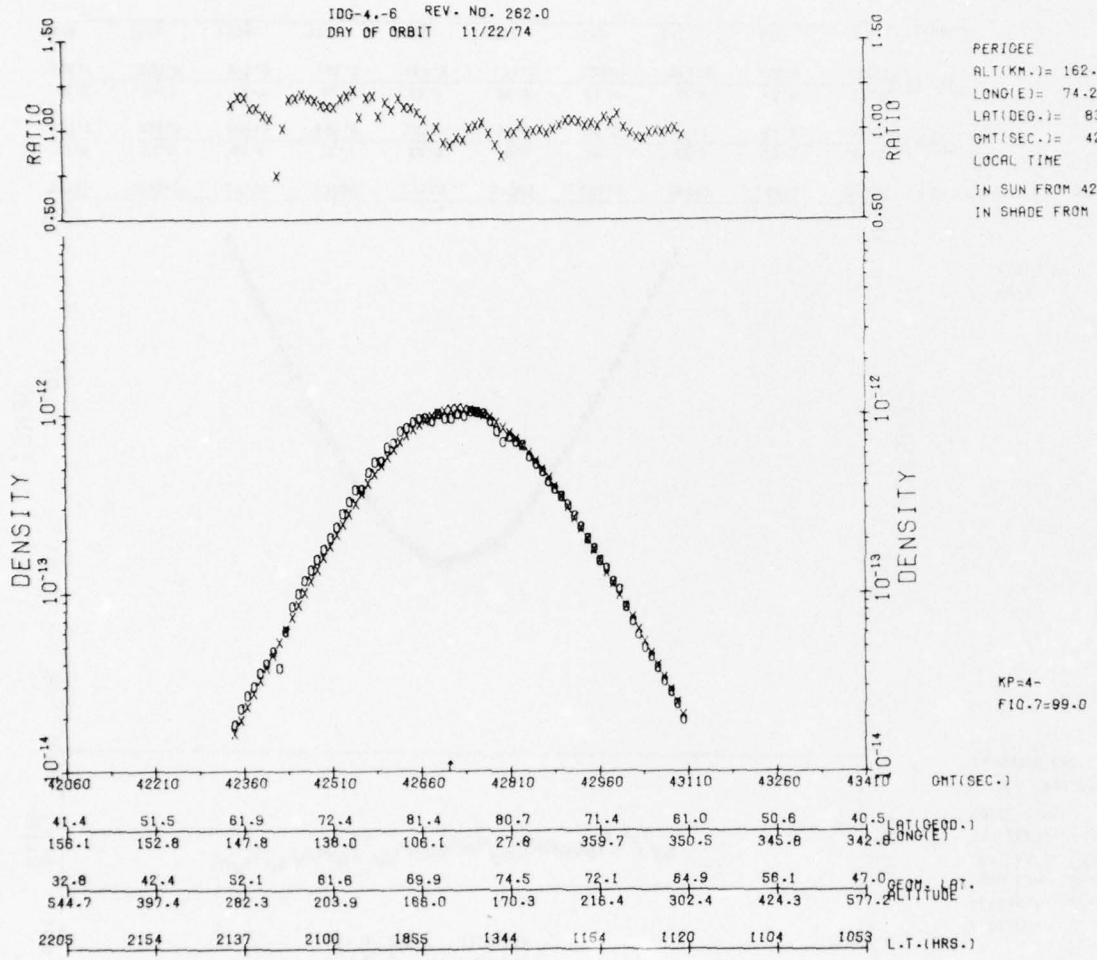
KP=3+
F10.7=98.0



PERIGEE
ALT(KM.)= 162.64
LONG(E)= 132.52
LAT(DEG.)= 83.00
GMT(SEC.)= 27854.3 (0744H)
LOCAL TIME 1634 (H)

IN SUN FROM 27210. TO 29160.
IN SHADE FROM 29160. TO 28560.

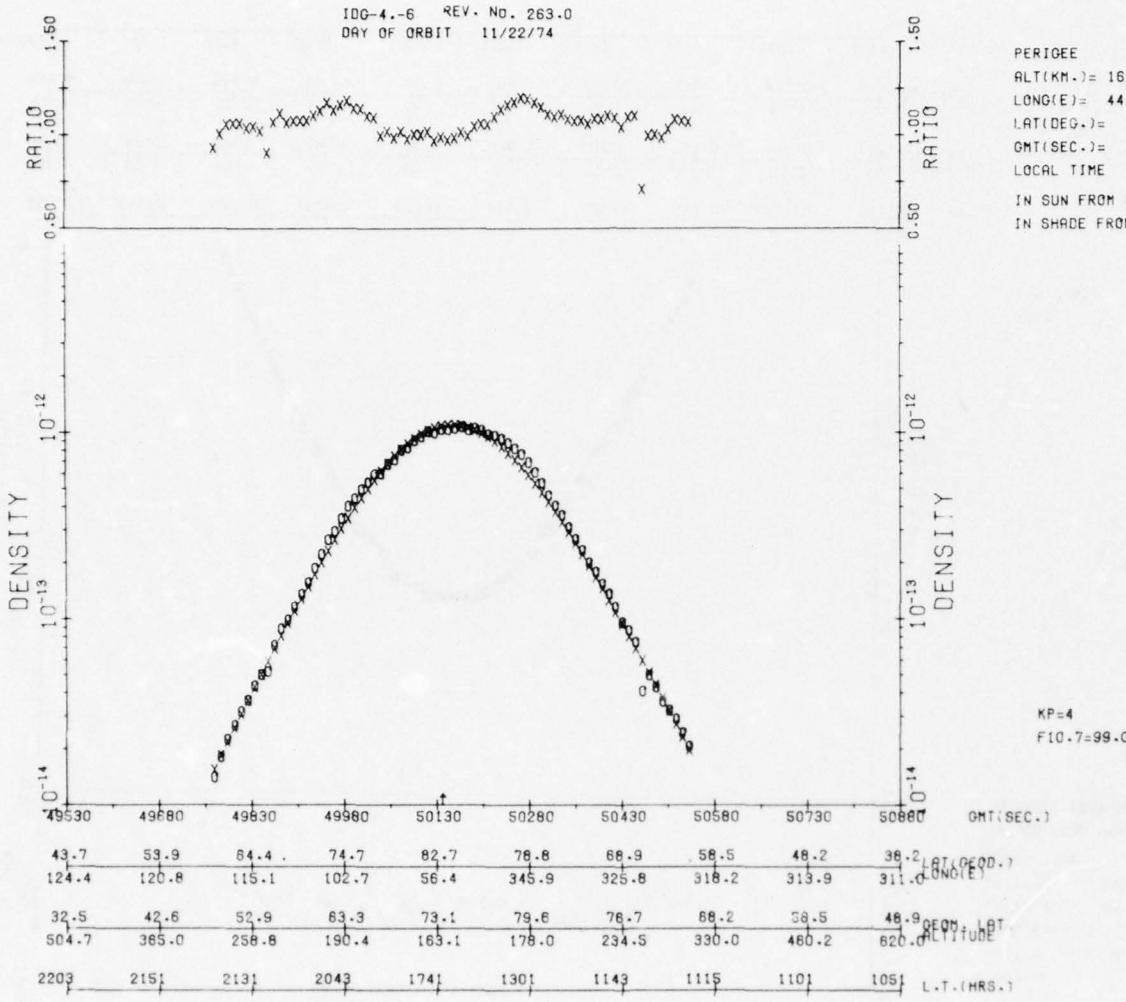
KP=3
F10.7=99.0



PERIGEE
ALT(KM.)= 162.64
LONG(E)= 74.27
LAT(DEG.)= 83.04
GMT(SEC.)= 42720.0 (1152H)
LOCAL TIME 1849 (H)

IN SUN FROM 42804. TO 43410.
IN SHADE FROM 42060. TO 42804.

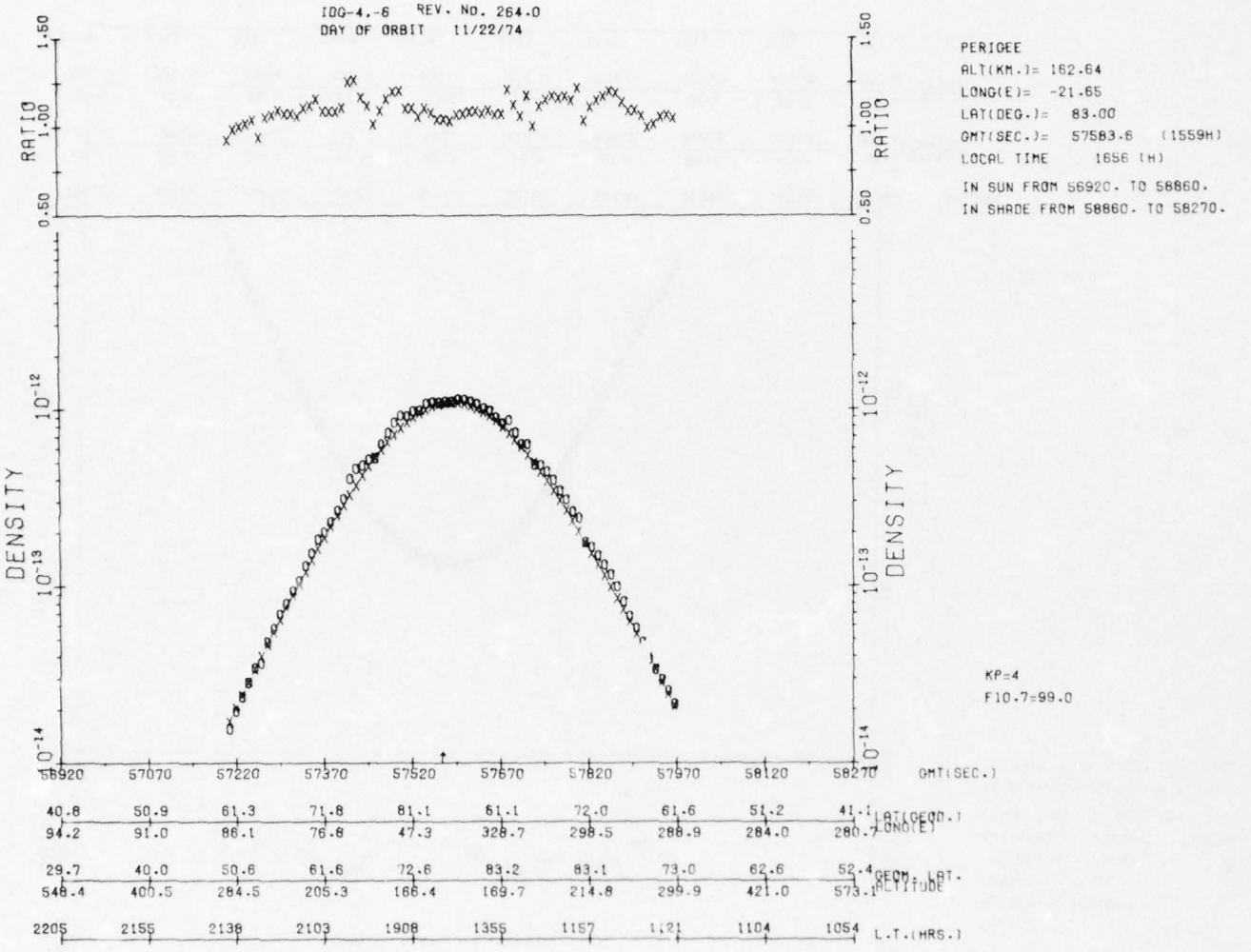
KP=4-
F10.7=99.0



PERIGEE
ALT(KM.)= 162.64
LONG(E)= 44.21
LAT(DEG.)= 83.02
GMT(SEC.)= 50152.1 (1355H)
LOCAL TIME 1652 (H)

IN SUN FROM 49530. TO 51420.
IN SHADE FROM 51420. TO 50880.

KP=4
F10.7=99.0

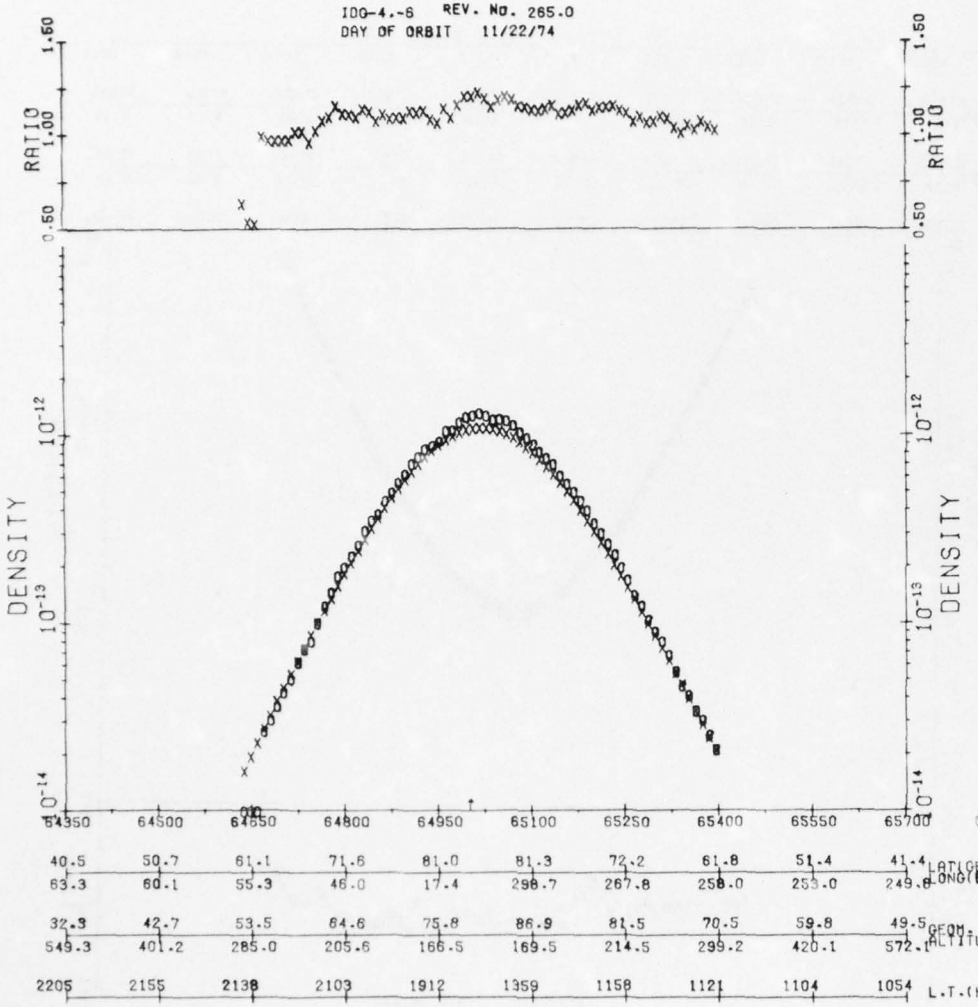


PERIGEE
ALT(KM.)= 162.64
LONG(E)= -21.65
LAT(DEG.)= 83.00
GMT(SEC.)= 57583.6 (1559H)
LOCAL TIME 1656 (H)

IN SUN FROM 56920. TO 58860.
IN SHADE FROM 58860. TO 58270.

KP=4
F10.7=99.0

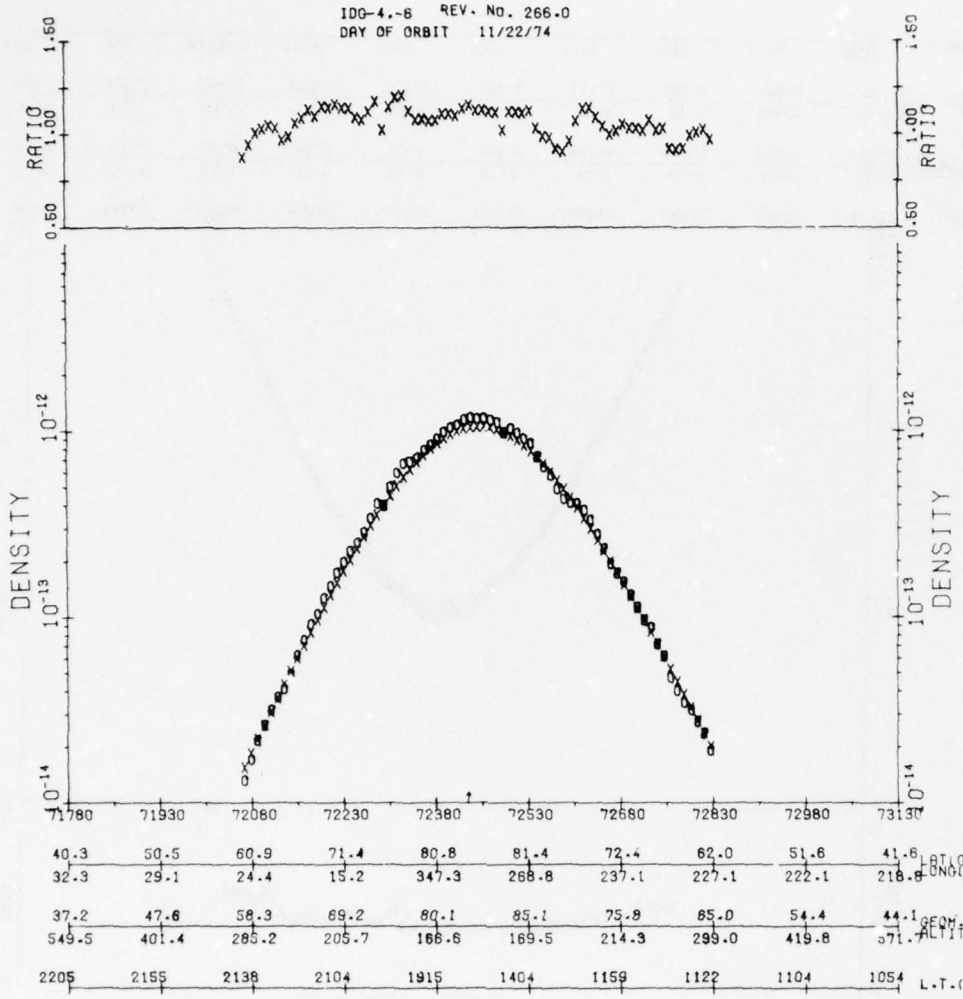
IDG-4.-6 REV. No. 265.0
DAY OF ORBIT 11/22/74



PERIGEE
ALT(KM.)= 162.83
LONG(E)= 234.84
LAT(DEG.)= 82.96
GMT(SEC.)= 65014.4 (1803H)
LOCAL TIME 1700 (H)

IN SUN FROM 64350. TO 66300.
IN SHADE FROM 66300. TO 65700.

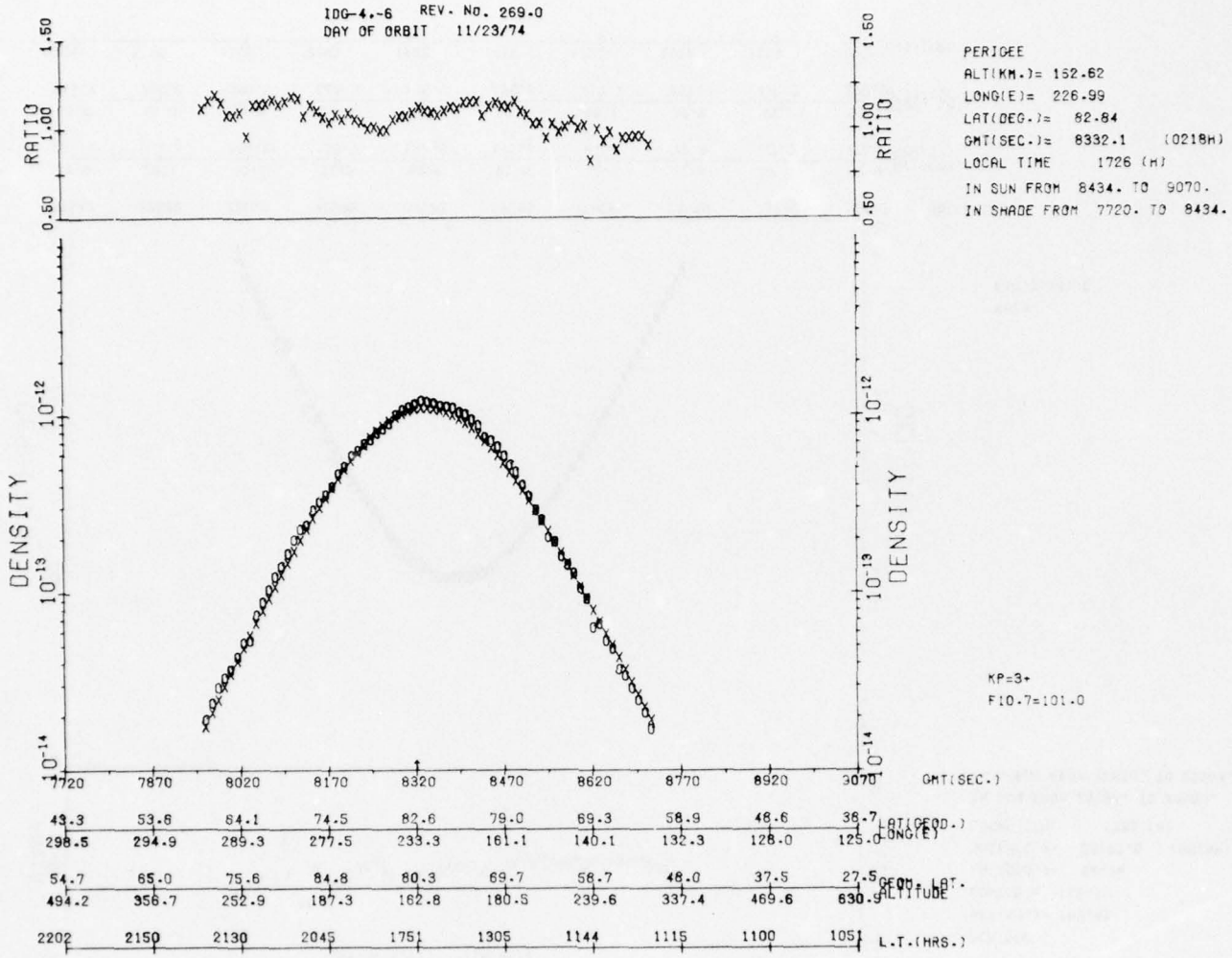
KP=4-
F10.7=99.0



PERIGEE
ALT(KM.)= 162.63
LONG(E)= 314.64
LAT(DEG.)= 82.92
GMT(SEC.)= 72444.6 (2007H)
LOCAL TIME 1705 (H)

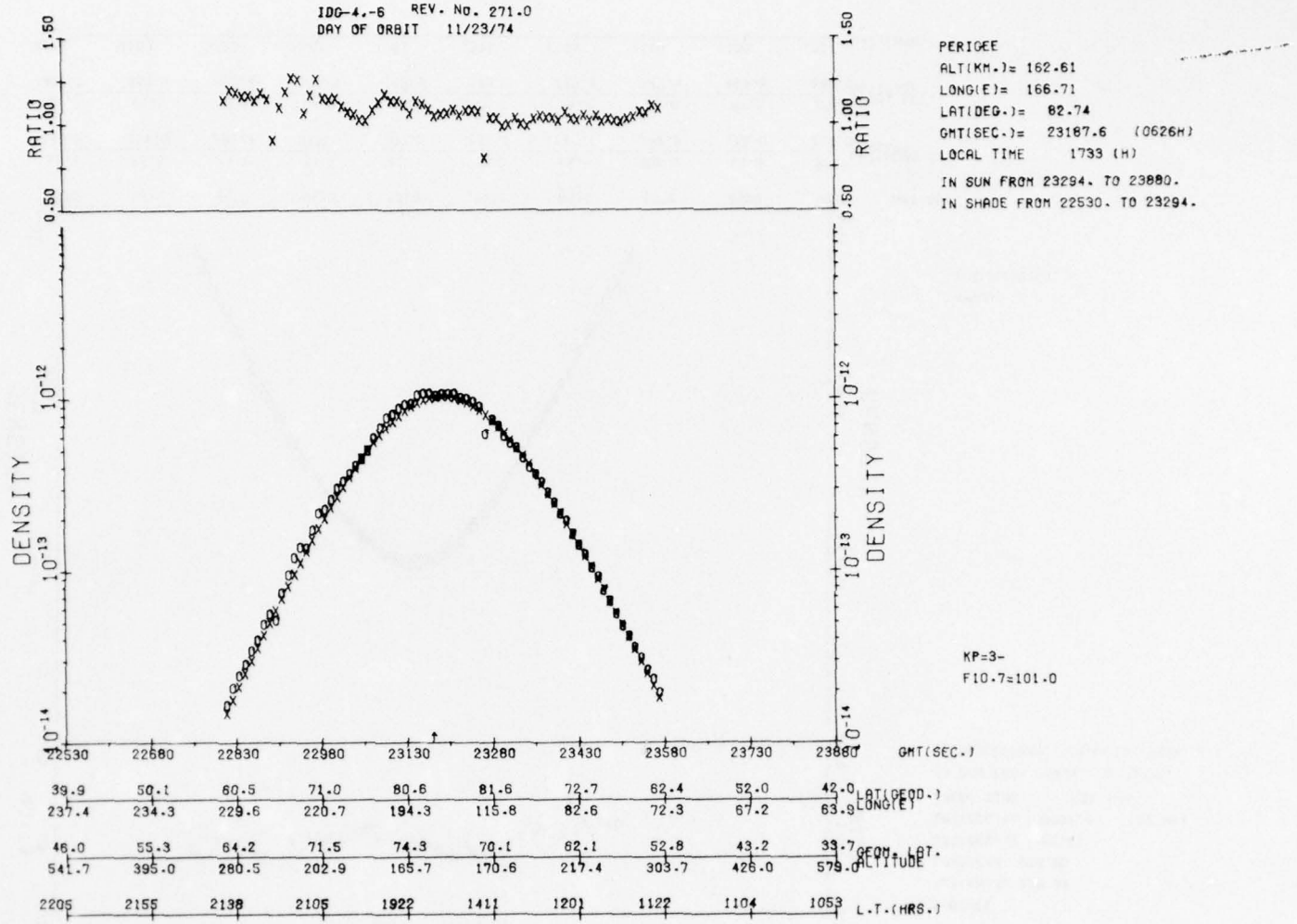
IN SUN FROM 71780. TO 73740.
IN SHADE FROM 73740. TO 73130.

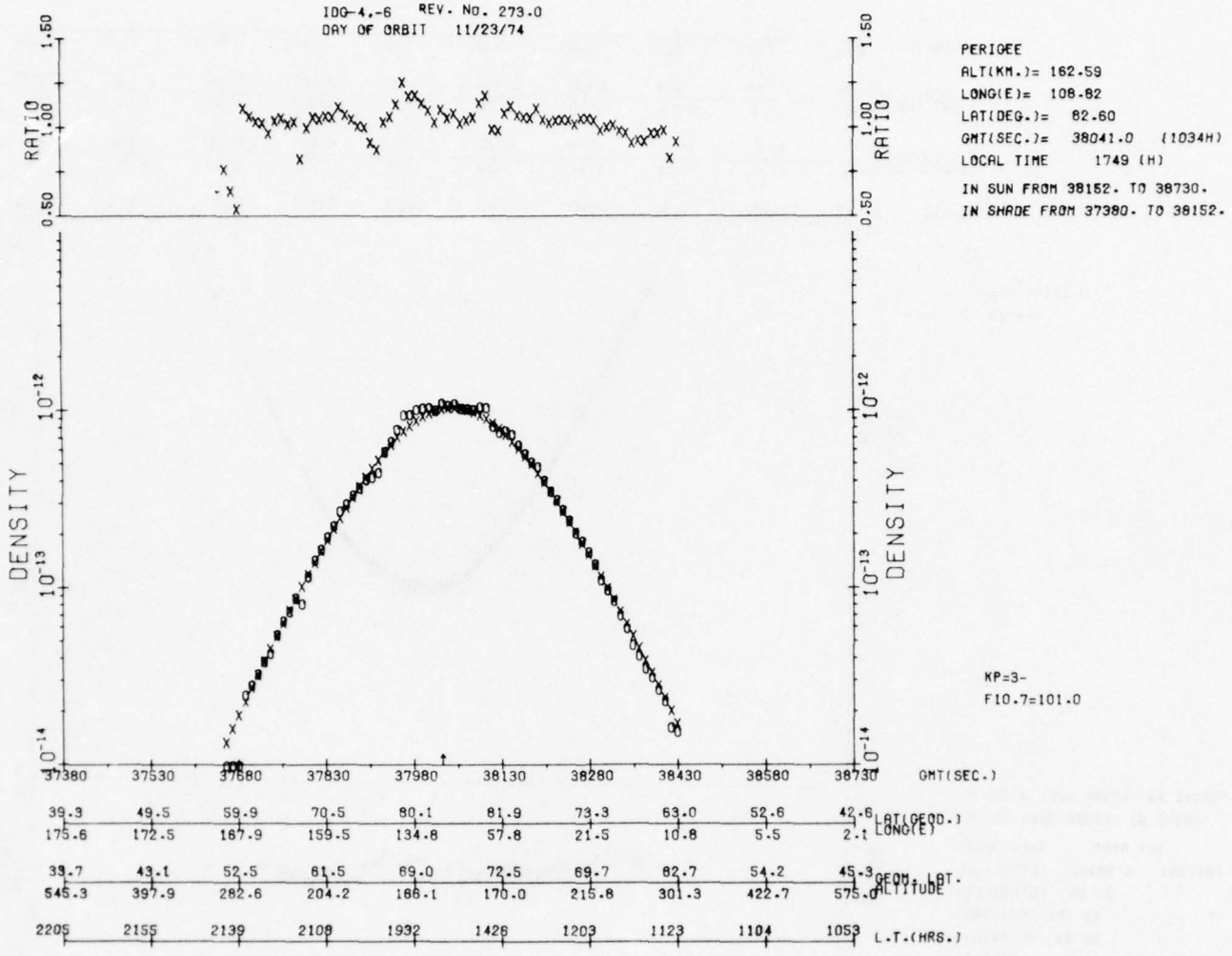
KP=3+
F10.7=99.0



PERIGEE
ALT(KM.)= 152.62
LONG(E)= 226.99
LAT(DEG.)= 82.84
GMT(SEC.)= 8332.1 (0218H)
LOCAL TIME 1726 (H)
IN SUN FROM 8434. TO 9070.
IN SHADE FROM 7720. TO 8434.

KP=3+
F10.7=101.0

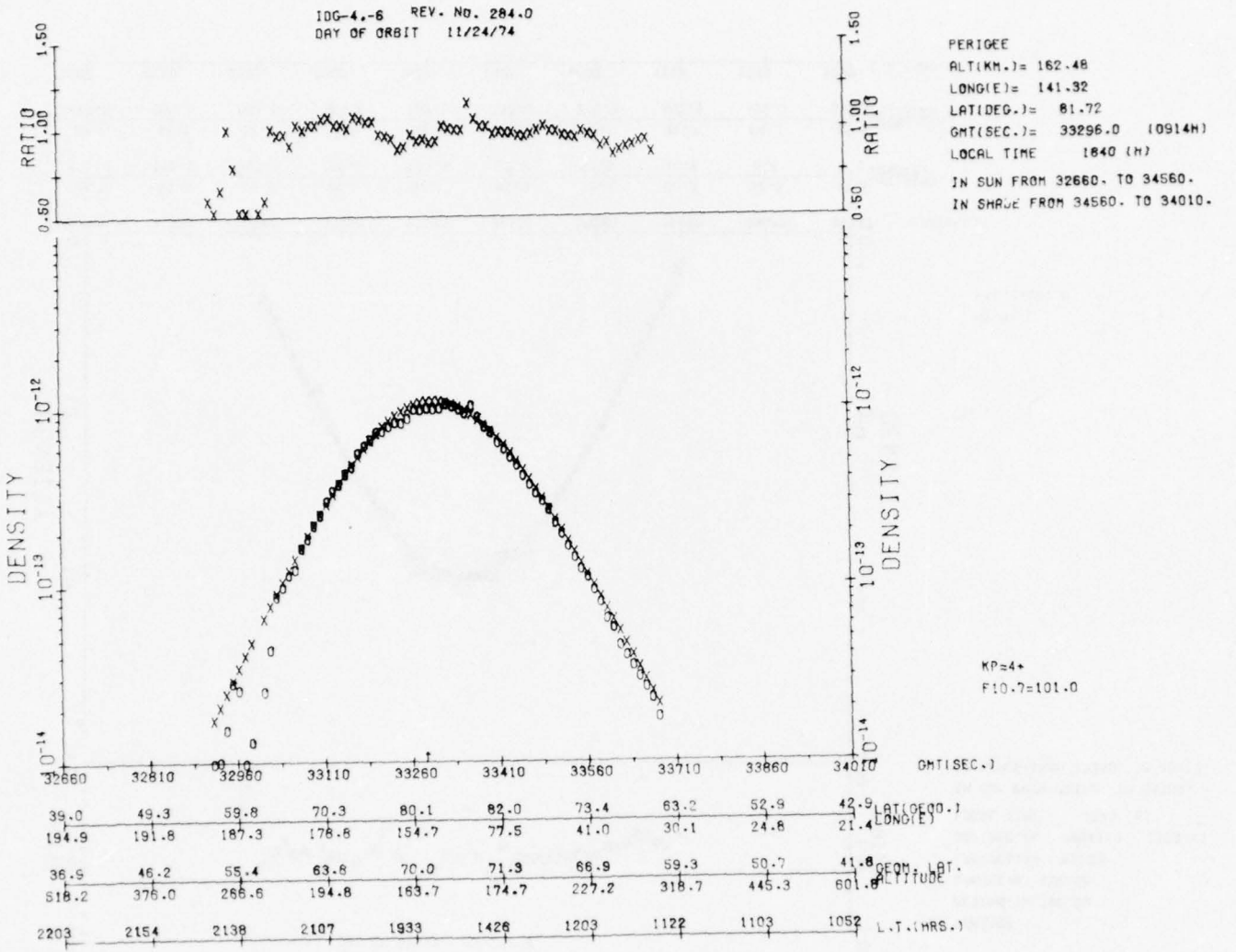

IDG-4.-6 REV. No. 271.0
DAY OF ORBIT 11/23/74
RATIO
1.50
1.00
0.50
DENSITY
10^{-12}
10^{-13}
10^{-14}
PERIGEE
ALT(KM.)= 162.61
LONG(E)= 166.71
LAT(DEG.)= 82.74
GMT(SEC.)= 23187.6 (0626H)
LOCAL TIME 1733 (H)
IN SUN FROM 23294. TO 23880.
IN SHADE FROM 22530. TO 23294.
KP=3-
F10.7=101.0
22530 22680 22830 22980 23130 23280 23430 23580 23730 23880 GMT(SEC.)
39.9 50.1 60.5 71.0 80.6 81.6 72.7 62.4 52.0 42.0 LAT(DEOD.)
237.4 234.3 229.6 220.7 194.3 115.8 82.6 72.3 67.2 63.9 LONG(E)
46.0 55.3 64.2 71.5 74.3 70.1 62.1 52.8 43.2 33.7 GEOM. LAT.
541.7 395.0 280.5 202.9 165.7 170.6 217.4 303.7 426.0 579.0 ALTITUDE
2205 2155 2138 2105 1922 1411 1201 1122 1104 1053 L.T.(HRS.)



PERIGEE
ALT(KM.)= 162.59
LONG(E)= 108.82
LAT(DEG.)= 82.60
GMT(SEC.)= 38041.0 (1034H)
LOCAL TIME 1749 (H)

IN SUN FROM 38152. TO 38730.
IN SHADE FROM 37380. TO 38152.

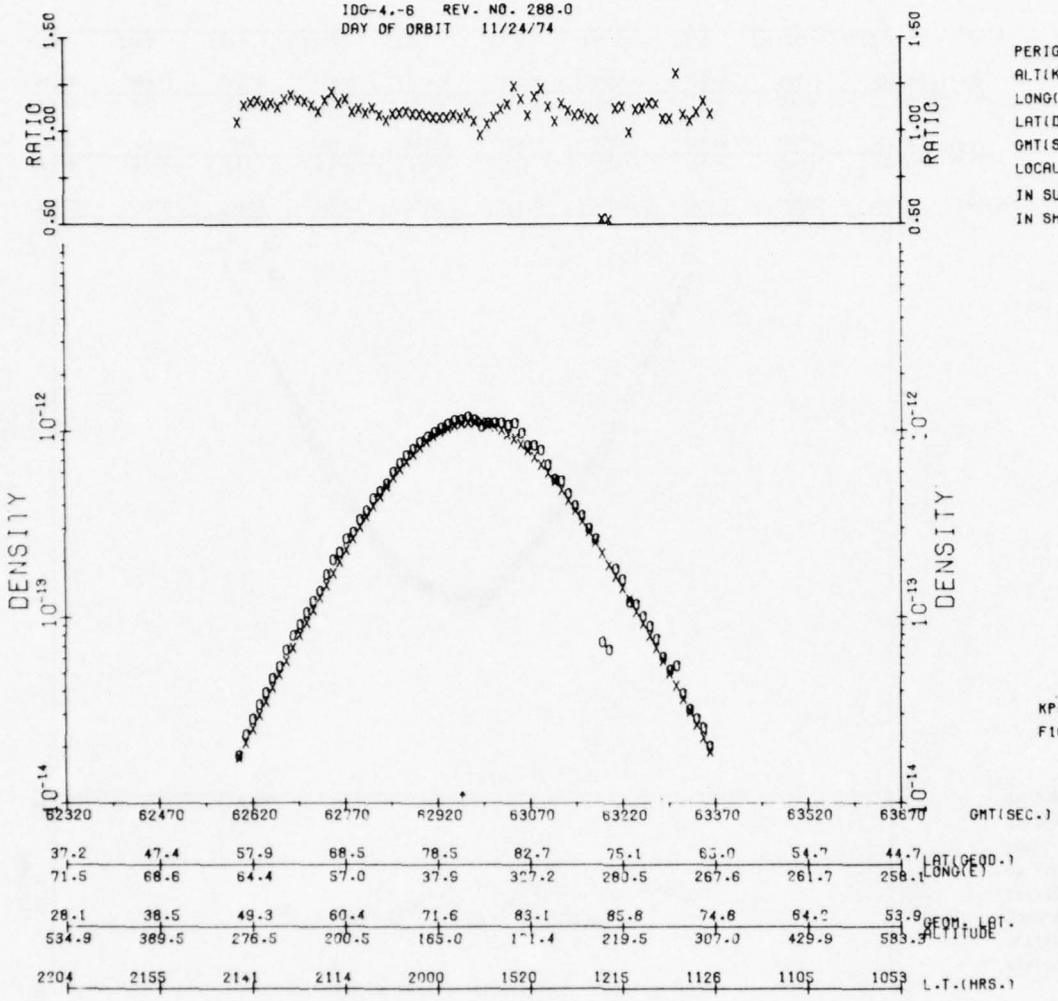
KP=3-
F10.7=101.0



PERIGEE
ALT(KM.)= 162.48
LONG(E)= 141.32
LAT(DEG.)= 81.72
GMT(SEC.)= 33296.0 (0914H)
LOCAL TIME 1840 (H)

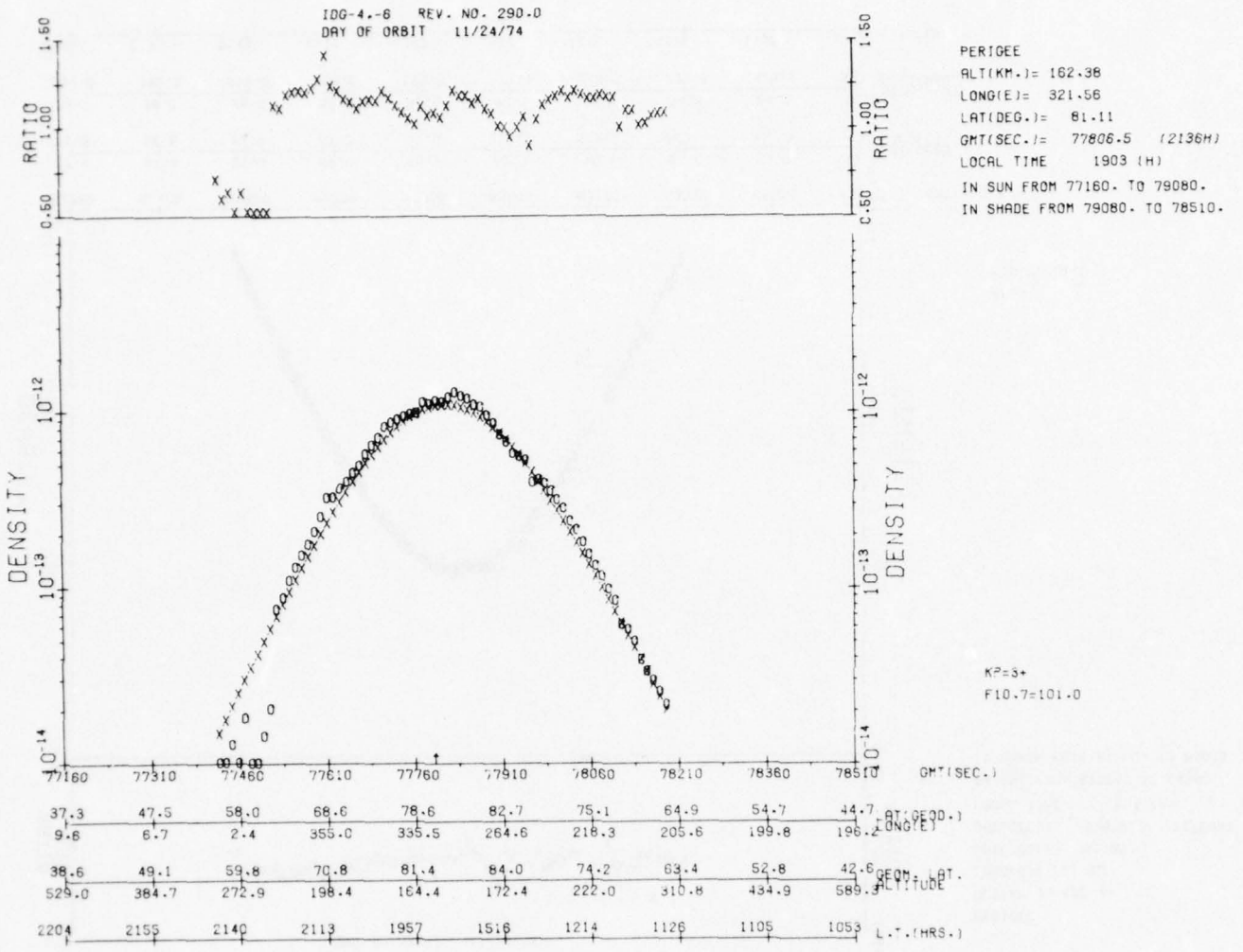
IN SUN FROM 32660. TO 34560.
IN SHADE FROM 34560. TO 34010.

KP=4+
F10.7=101.0



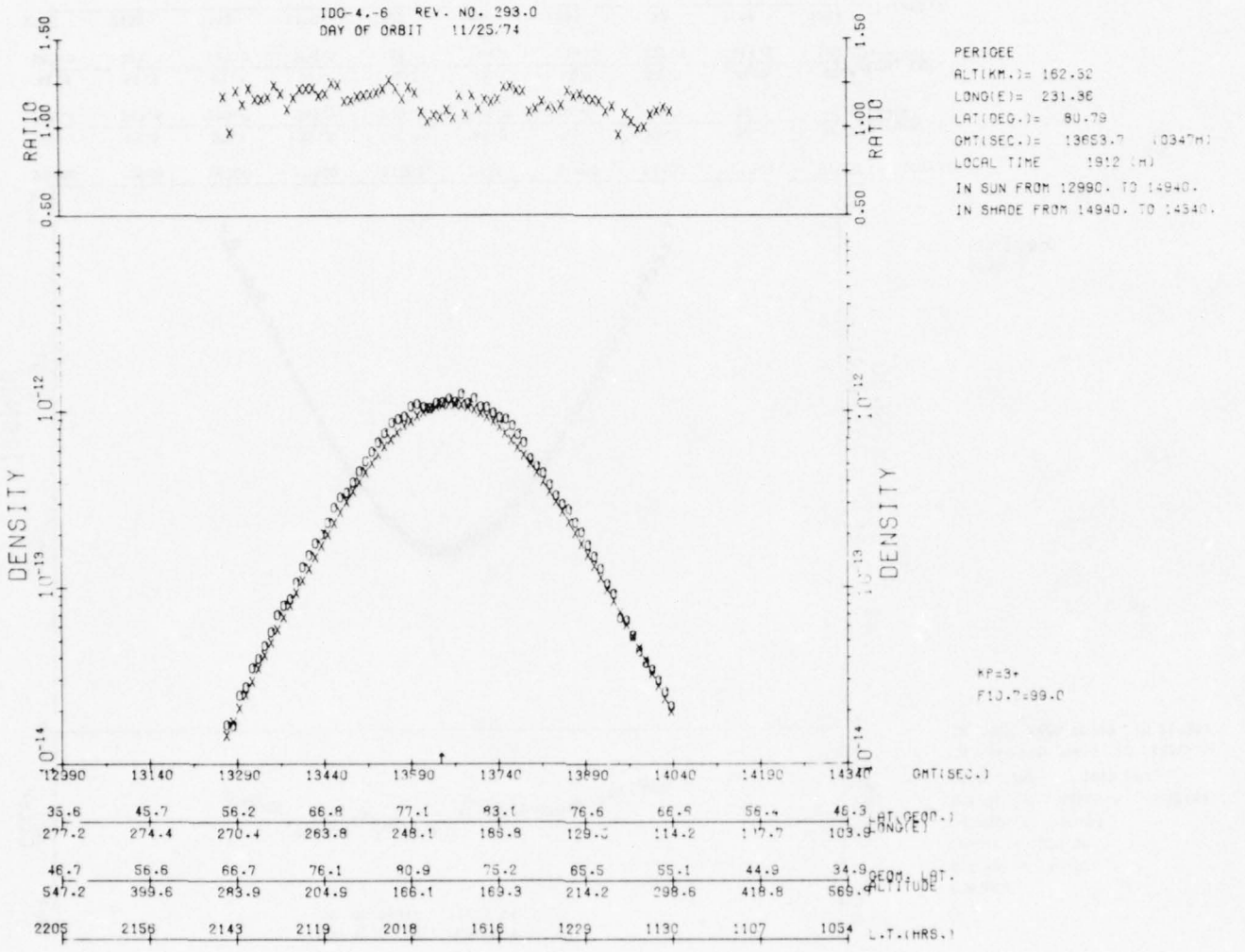
PERIGEE
ALT(KM.)= 162.41
LONG(E)= 21.25
LAT(DEG.)= 81.37
GMT(SEC.)= 62972.0 (1729H)
LOCAL TIME 1854 (H)
IN SUN FROM 62320. TO 64260.
IN SHADE FROM 64260. TO 63670.

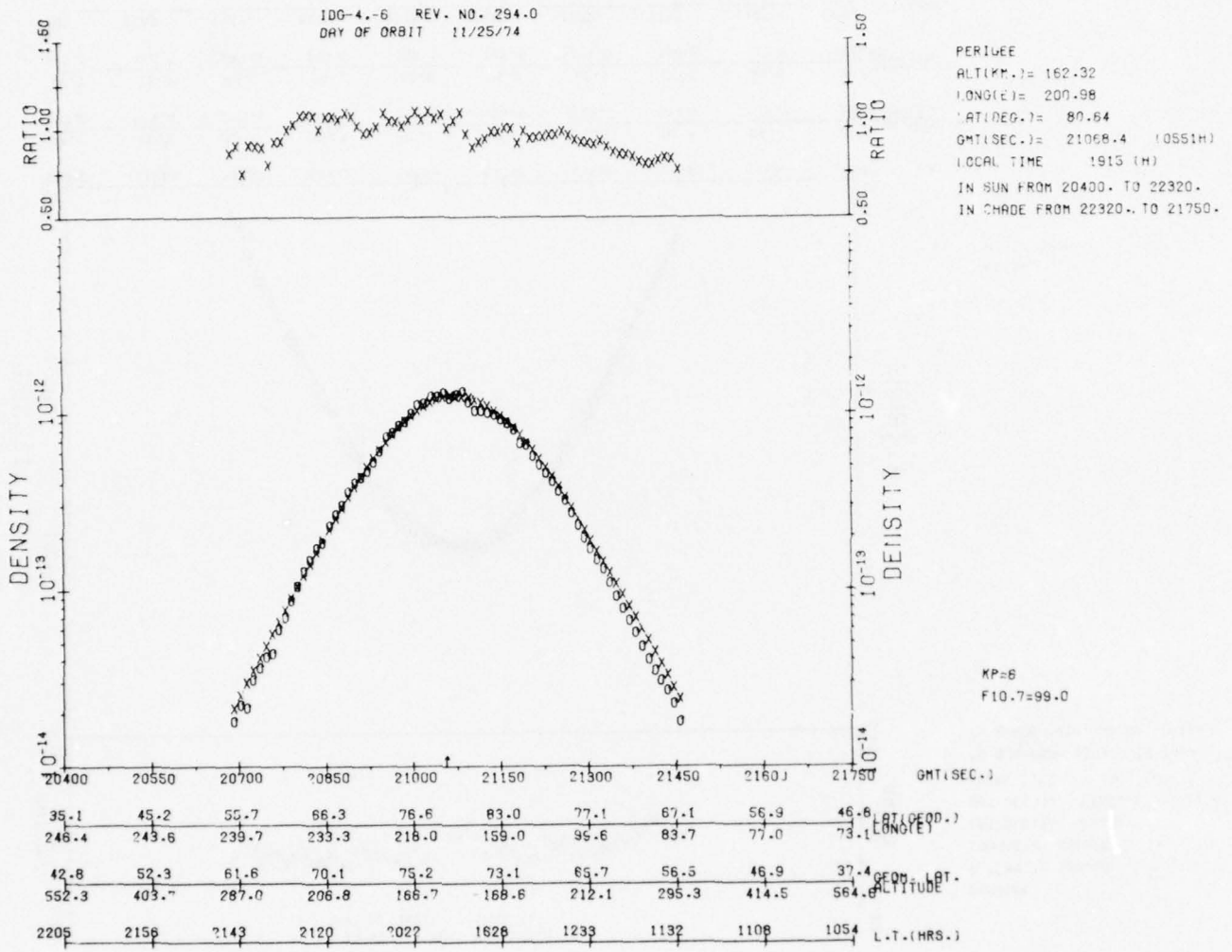
KP=4-
F10.7=101.0

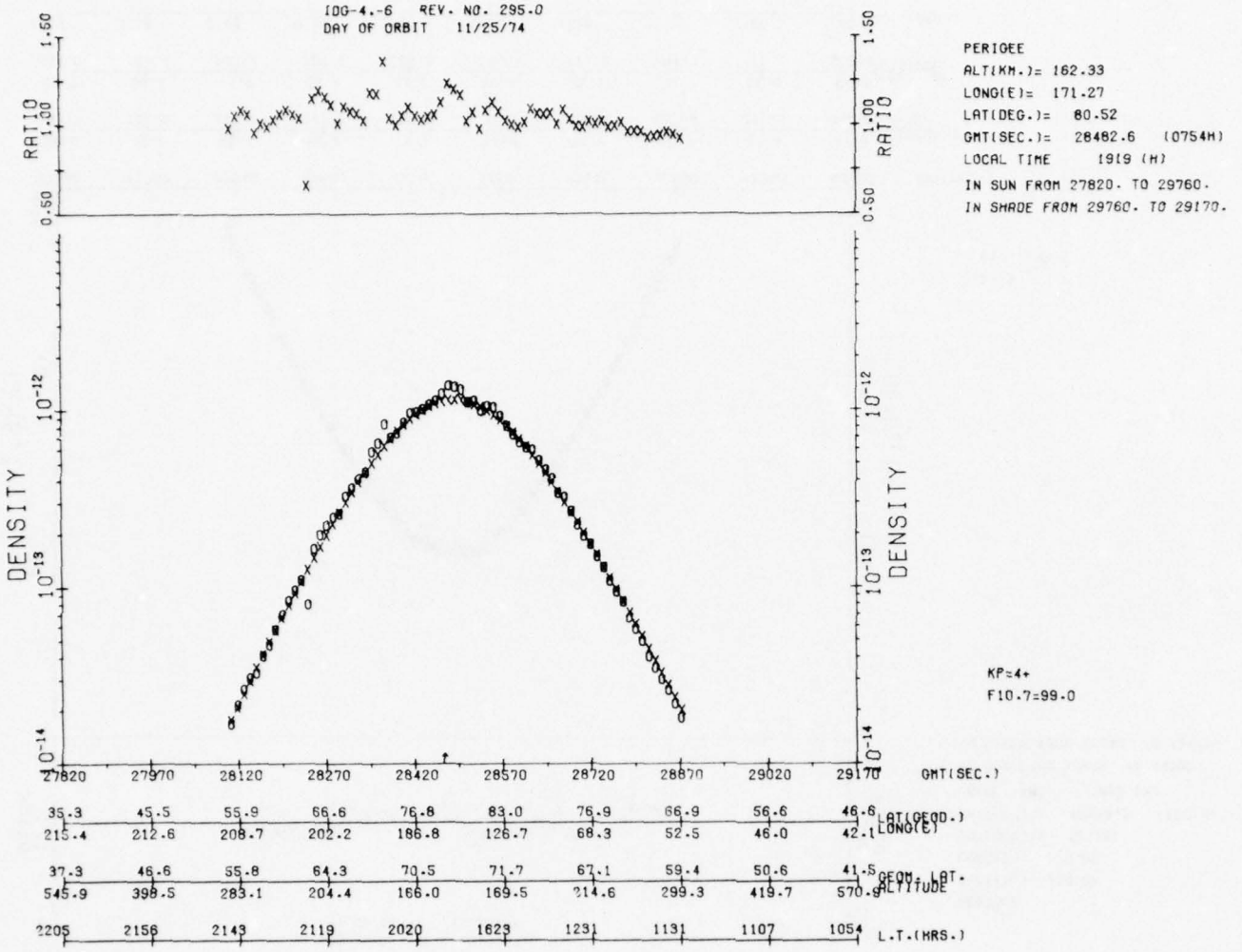


PERIGEE
ALT(KM.)= 162.38
LONG(E)= 321.56
LAT(DEG.)= 81.11
GMT(SEC.)= 77806.5 (2136H)
LOCAL TIME 1903 (H)
IN SUN FROM 77160. TO 79080.
IN SHADE FROM 79080. TO 78510.

KP=3+
F10.7=101.0

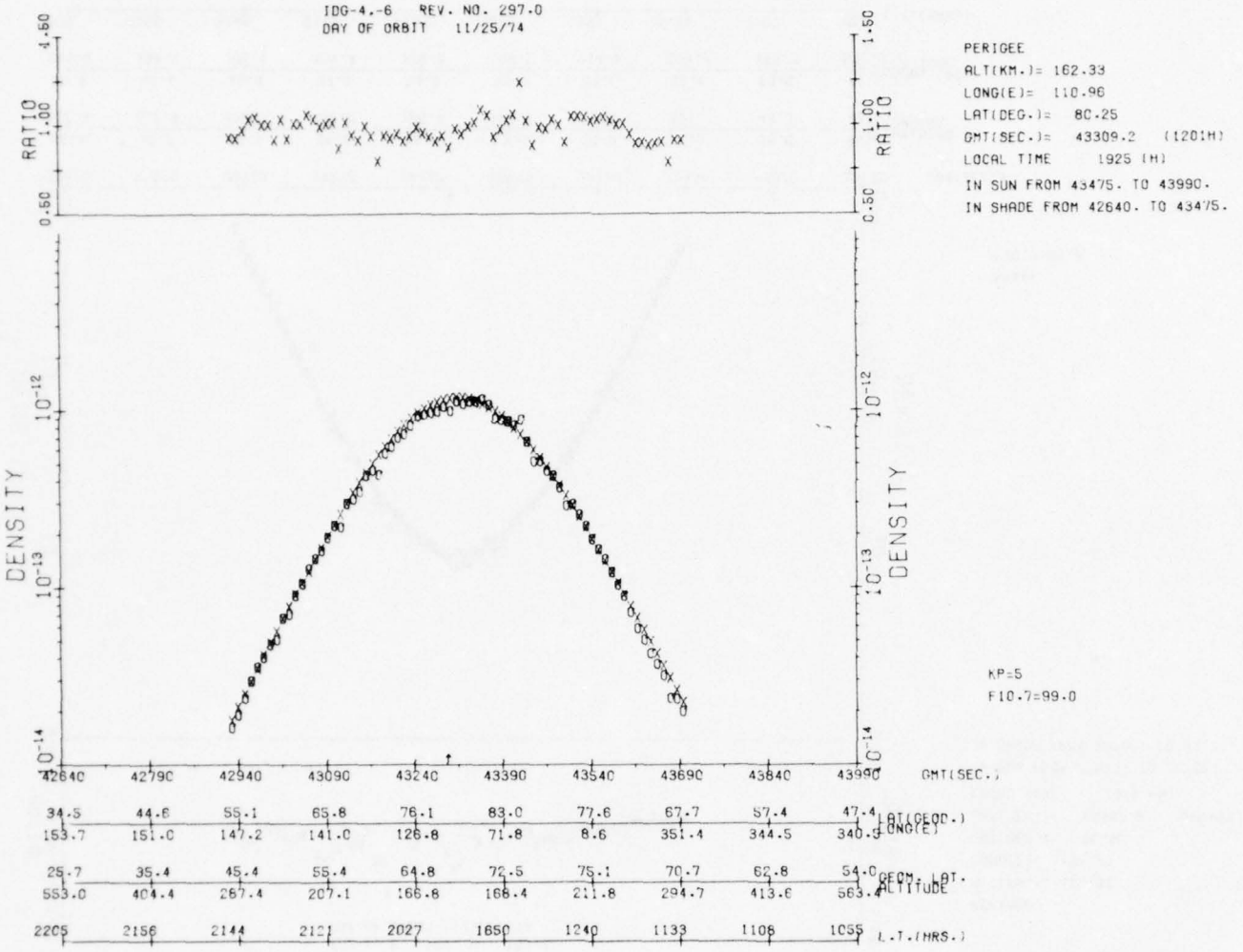

IDG-4.-6 REV. NO. 293.0
DAY OF ORBIT 11/25/74
RATIO
1.50
1.00
0.50
DENSITY
10^{-12}
10^{-13}
10^{-14}
12390
13140
13290
13440
13590
13740
13890
14040
14190
14340
GMT(SEC.)
35.6 45.7 56.2 66.8 77.1 83.1 76.6 66.8 56.4 46.3 LAT.(DEG.)
277.2 274.4 270.4 263.8 248.1 188.8 129.3 114.2 107.7 103.8 LONG(E)
46.7 56.6 66.7 76.1 90.9 75.2 65.5 55.1 44.9 34.9 GEOM. LAT.
547.2 399.6 283.9 204.9 166.1 169.3 214.2 298.6 418.8 569.4 ALTITUDE
2205 2156 2143 2119 2018 1618 1229 1130 1107 1054 L.T.(HRS.)
PERIGEE
ALT(KM.)= 162.52
LONG(E)= 231.36
LAT(DEG.)= 80.79
GMT(SEC.)= 13683.7 (0347M)
LOCAL TIME 19:12 (H)
IN SUN FROM 12990. TO 14940.
IN SHADE FROM 14940. TO 14340.
KP=3+
F10.7=99.0

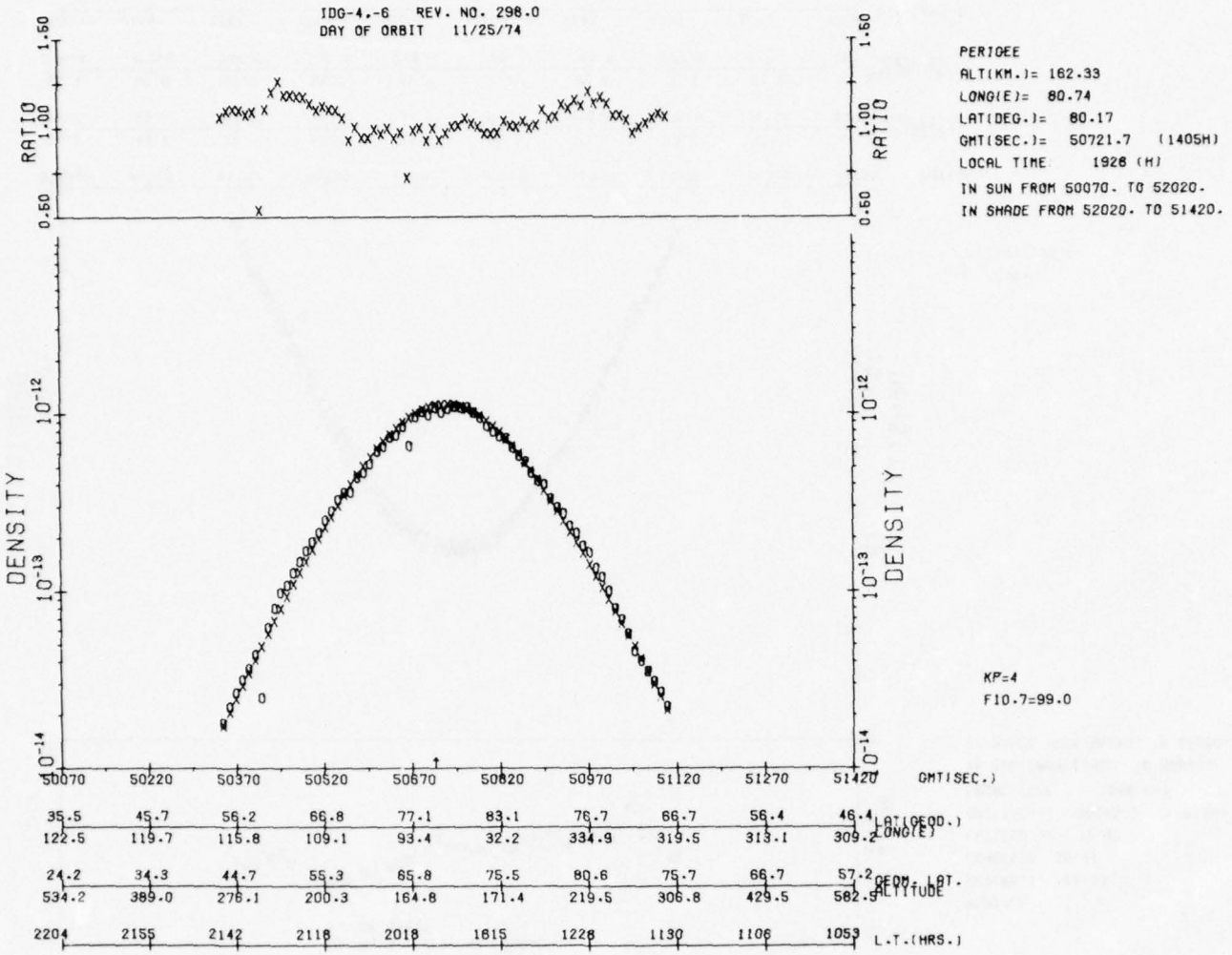

IDG-4.-6 REV. NO. 294.0
DAY OF ORBIT 11/25/74
RATIO
1.50
1.00
0.50
DENSITY
10^{-12}
10^{-13}
10^{-14}
PERIGEE
ALT(KM.)= 162.32
LONG(E)= 200.98
LAT(DEG.)= 80.64
GMT(SEC.)= 21068.4 (0551H)
LOCAL TIME 1915 (H)
IN SUN FROM 20400. TO 22320.
IN SHADE FROM 22320. TO 21750.
KP=6
F10.7=99.0
20400 20550 20700 20850 21000 21150 21300 21450 21600 21750 GMT(SEC.)
35.1 45.2 55.7 66.3 76.6 83.0 77.1 67.1 56.9 46.6 LAT(DEGD.)
246.4 243.6 239.7 233.3 218.0 159.0 99.6 83.7 77.0 73.1 LONG(E)
42.8 52.3 61.6 70.1 75.2 73.1 65.7 56.5 46.9 37.4 GEOM. LAT.
552.3 403.7 287.0 206.8 168.7 168.6 212.1 295.3 414.5 564.8 ALTITUDE
2205 2158 2143 2120 2022 1628 1233 1132 1108 1054 L.T.(HRS.)

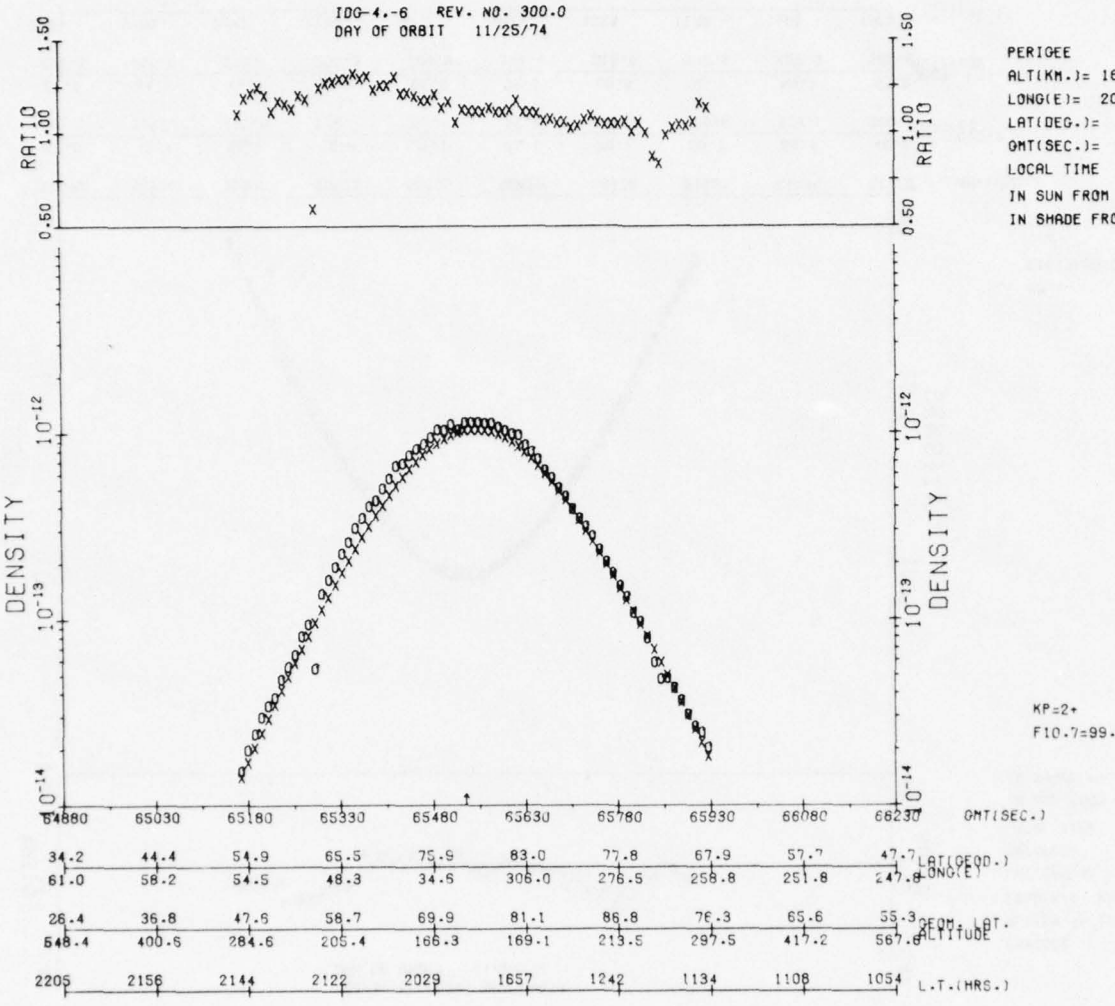


PERIGEE
ALT(KM.)= 162.33
LONG(E)= 171.27
LAT(DEG.)= 80.52
GMT(SEC.)= 28482.6 (0754H)
LOCAL TIME 1919 (H)
IN SUN FROM 27820. TO 29760.
IN SHADE FROM 29760. TO 29170.

KP=4+
F10.7=99.0

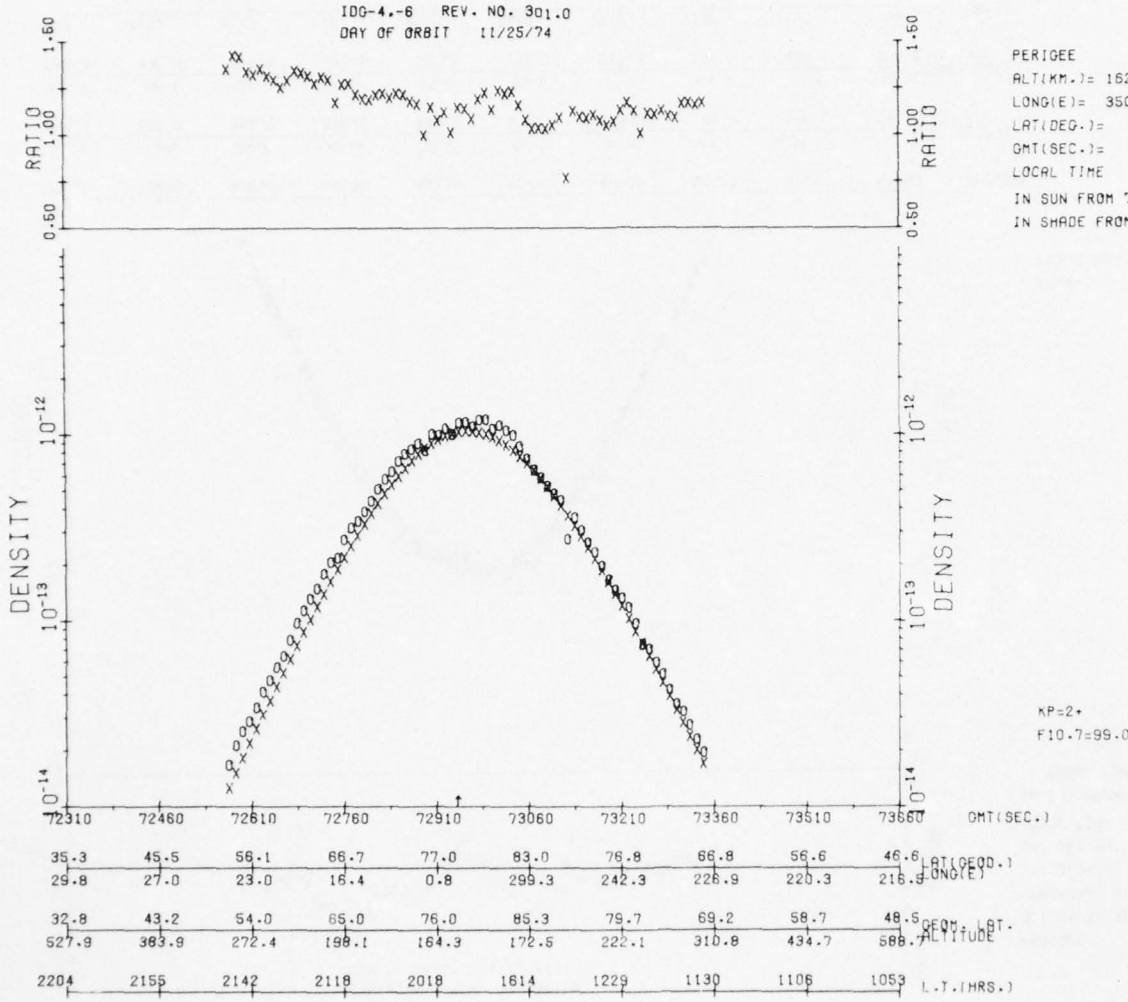

IDG-4.-6 REV. NO. 297.0
DAY OF ORBIT 11/25/74
RATIO
4.50
1.00
0.50
DENSITY
10^{-12}
10^{-13}
10^{-14}
PERIGEE
ALT(KM.)= 162.33
LONG(E)= 110.96
LAT(DEG.)= 80.25
GMT(SEC.)= 43309.2 (1201H)
LOCAL TIME 1925 (H)
IN SUN FROM 43475. TO 43990.
IN SHADE FROM 42640. TO 43475.
KP=5
F10.7=99.0
42640 42790 42940 43090 43240 43390 43540 43690 43840 43990 GMT(SEC.)
34.5 44.6 55.1 65.8 76.1 83.0 77.6 67.7 57.4 47.4 LAT(GEOD.)
153.7 151.0 147.2 141.0 126.8 71.8 8.6 351.4 344.5 340.3 LONG(E)
25.7 35.4 45.4 55.4 64.8 72.5 75.1 70.7 62.8 54.0 GEOM. LAT.
553.0 404.4 287.4 207.1 166.8 166.4 211.8 294.7 413.6 563.4 ALTITUDE
2205 2156 2144 2121 2027 1650 1240 1133 1108 1055 L.T.(HRS.)


IDG-4,-6 REV. NO. 298.0
DAY OF ORBIT 11/25/74
RATIO
1.50
1.00
0.50
DENSITY
10^{-12}
10^{-13}
10^{-14}
PERIGEE
ALT(KM.)= 162.33
LONG(E)= 80.74
LAT(DEG.)= 80.17
GMT(SEC.)= 50721.7 (1405H)
LOCAL TIME 1928 (H)
IN SUN FROM 50070. TO 52020.
IN SHADE FROM 52020. TO 51420.
KP=4
F10.7=99.0
50070 50220 50370 50520 50670 50820 50970 51120 51270 51420 GMT(SEC.)
35.5 45.7 56.2 66.8 77.1 83.1 76.7 66.7 56.4 46.4 LAT(DEGD.)
122.5 119.7 115.8 109.1 93.4 32.2 334.9 319.5 313.1 309.2 LONG(E)
24.2 34.3 44.7 55.3 65.8 75.5 80.6 75.7 66.7 57.2 GEOM. LAT.
534.2 389.0 276.1 200.3 164.8 171.4 219.5 306.8 429.5 582.5 ALTITUDE
2204 2155 2142 2118 2018 1815 1228 1130 1106 1053 L.T.(HRS.)



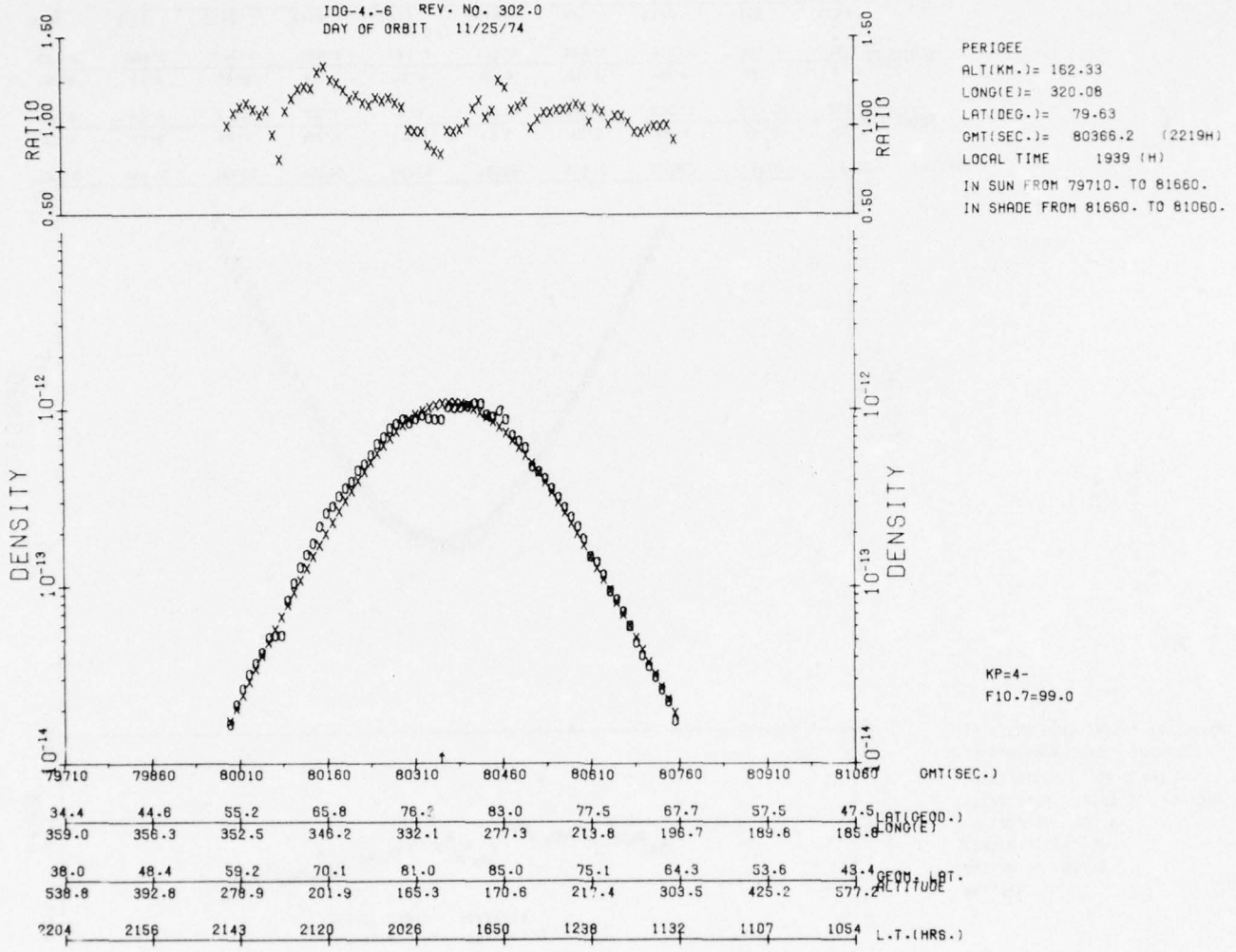
PERIGEE
ALT(KM.)= 162.33
LONG(E)= 20.47
LAT(DEG.)= 79.90
GMT(SEC.)= 65545.0 (1812H)
LOCAL TIME 1934 (H)
IN SUN FROM 64880. TO 66840.
IN SHADE FROM 66840. TO 66230.

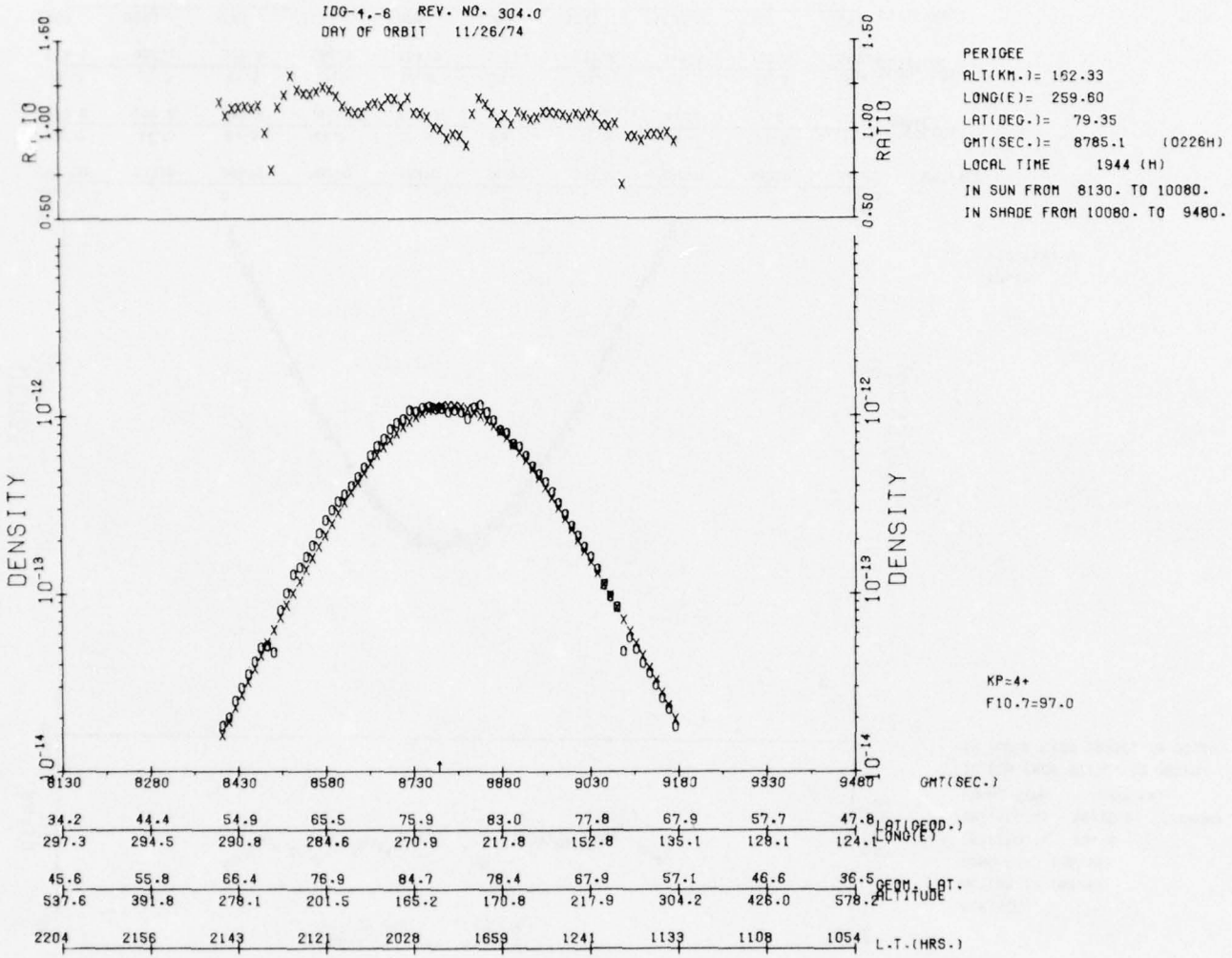
KP=2+
F10.7=99.0



PERIGEE
ALT(KM.)= 162.33
LONG(E)= 350.08
LAT(DEG.)= 79.70
GMT(SEC.)= 72955.9 (2015H)
LOCAL TIME 1938 (H)
IN SUN FROM 72310. TO 74220.
IN SHADE FROM 74220. TO 73660.

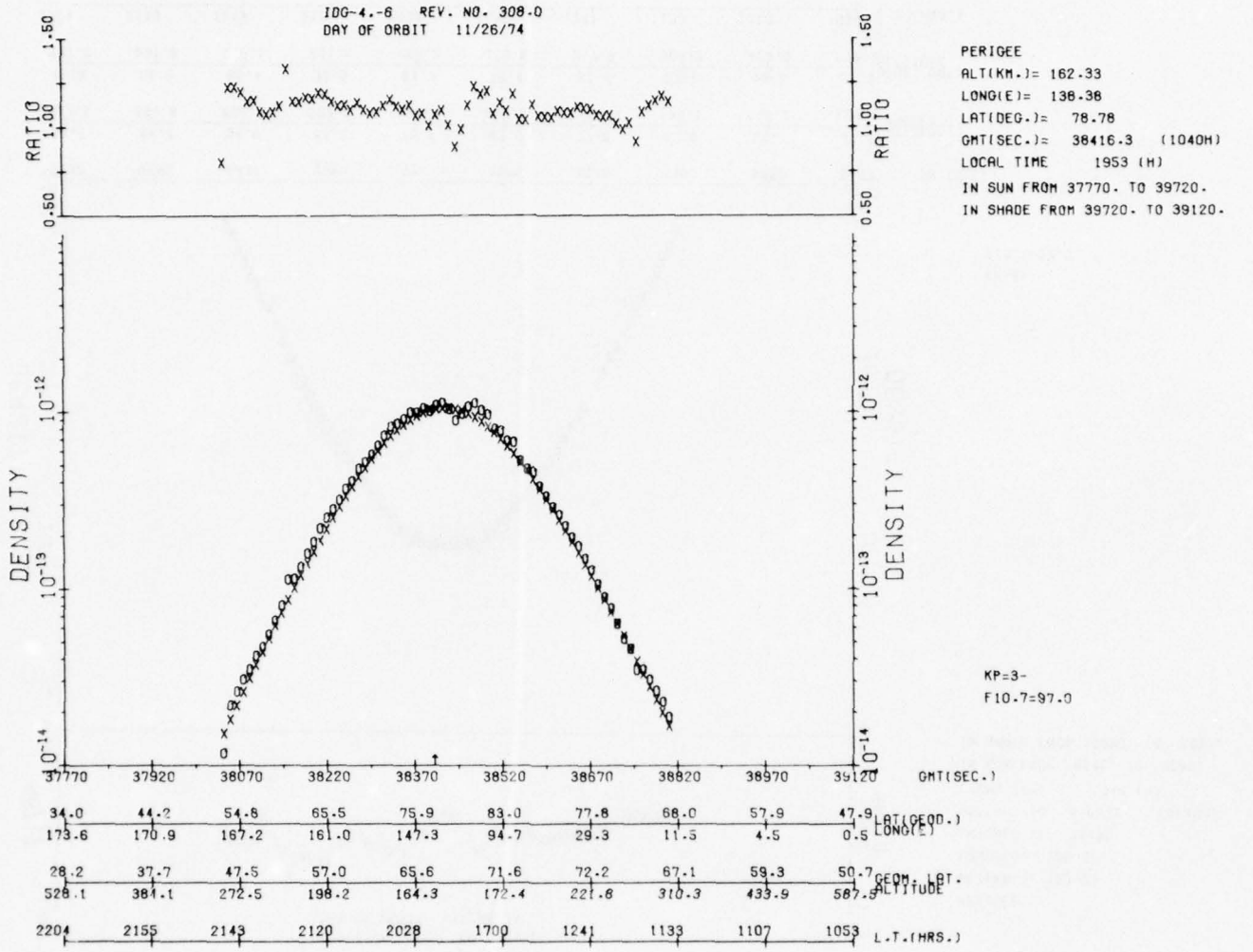
KP=2+
F10.7=99.0


IDG-4.-6 REV. NO. 302.0
DAY OF ORBIT 11/25/74
RATIO
1.50
1.00
0.50
DENSITY
10^{-12}
10^{-13}
10^{-14}
PERIGEE
ALT(KM.)= 162.33
LONG(E)= 320.08
LAT(DEG.)= 79.63
GMT(SEC.)= 80366.2 (2219H)
LOCAL TIME 1939 (H)
IN SUN FROM 79710. TO 81660.
IN SHADE FROM 81660. TO 81060.
KP=4-
F10.7=99.0
79710 79860 80010 80160 80310 80460 80610 80760 80910 81060 GMT(SEC.)
34.4 44.6 55.2 65.8 76.2 83.0 77.5 67.7 57.5 47.5 LAT(GEOD.)
359.0 356.3 352.5 346.2 332.1 277.3 213.8 196.7 189.6 185.8 LONG(E)
38.0 48.4 59.2 70.1 81.0 85.0 75.1 64.3 53.6 43.4 GEOD. LAT.
538.8 392.8 278.9 201.9 165.3 170.6 217.4 303.5 425.2 577.2 ALTITUDE
2204 2156 2143 2120 2026 1650 1238 1132 1107 1054 L.T.(HRS.)



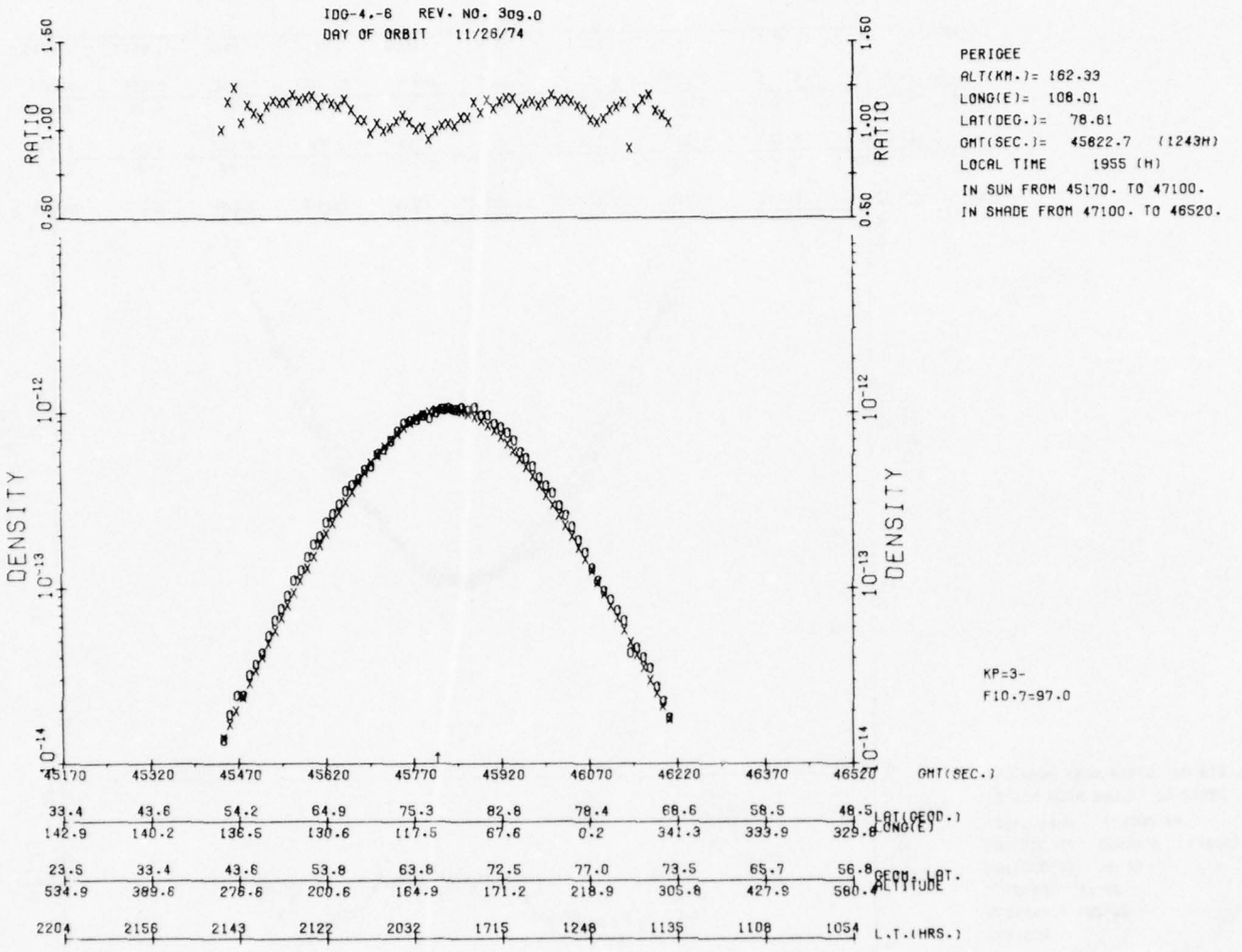
PERIGEE
ALT(KM.)= 162.33
LONG(E)= 259.60
LAT(DEG.)= 79.35
GMT(SEC.)= 8785.1 (0226H)
LOCAL TIME 1944 (H)
IN SUN FROM 8130. TO 10080.
IN SHADE FROM 10080. TO 9480.

KP=4+
F10.7=97.0



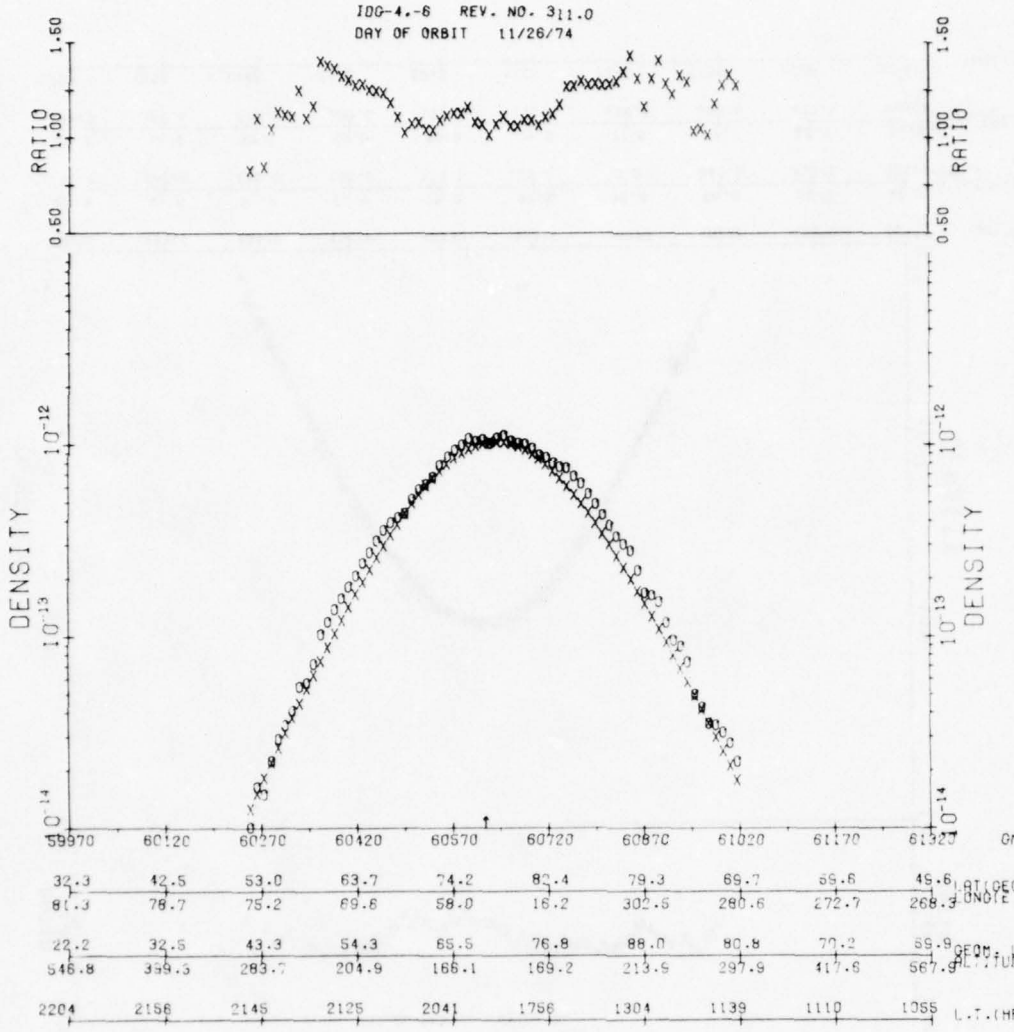
PERIGEE
ALT(KM.)= 162.33
LONG(E)= 138.38
LAT(DEG.)= 78.78
GMT(SEC.)= 38416.3 (1040H)
LOCAL TIME 1953 (H)
IN SUN FROM 37770. TO 39720.
IN SHADE FROM 39720. TO 39120.

KP=3-
F10.7=97.0



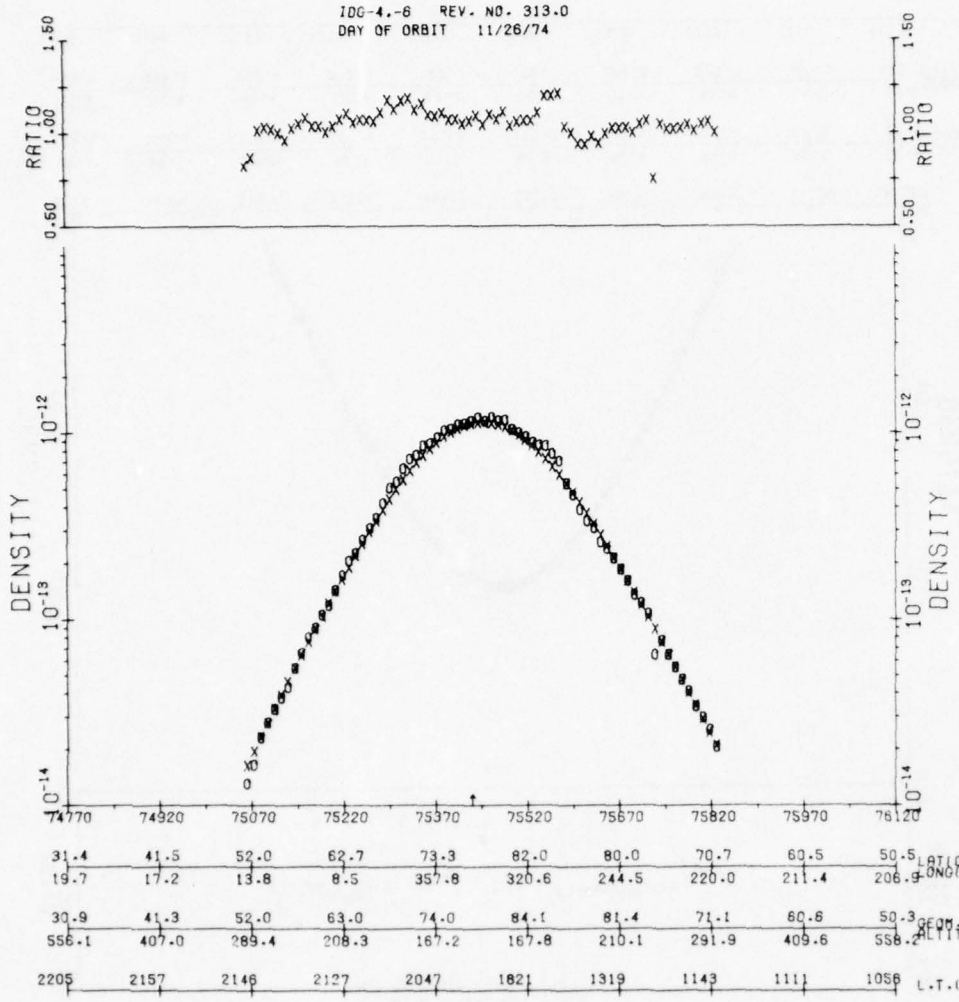
PERIGEE
ALT(KM.)= 162.33
LONG(E)= 108.01
LAT(DEG.)= 78.61
GMT(SEC.)= 45822.7 (1243H)
LOCAL TIME 1955 (H)
IN SUN FROM 45170. TO 47100.
IN SHADE FROM 47100. TO 46520.

KP=3-
F10.7=97.0



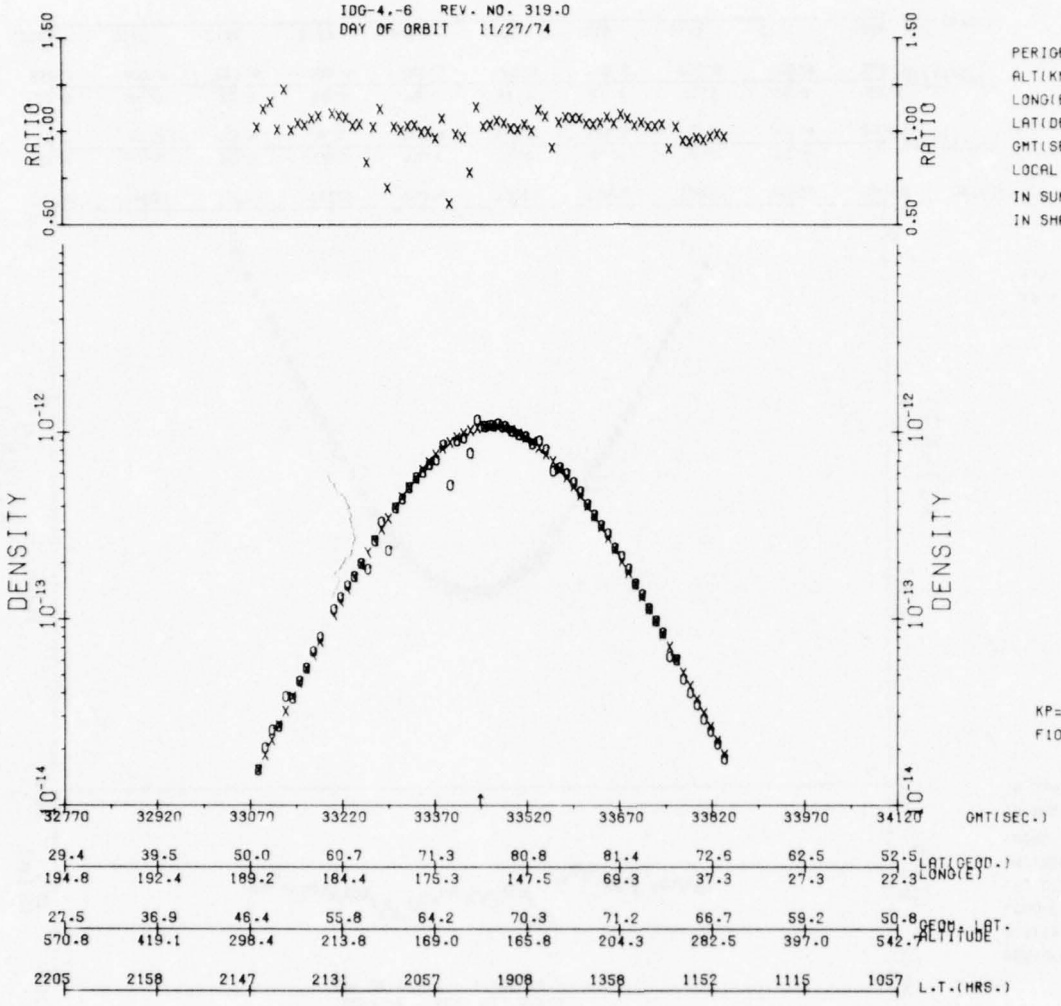
PERIGEE
ALT(KM.)= 162.32
LONG(E)= 47.42
LAT(DEG.)= 78.33
GMT(SEC.)= 60633.9 (1650H)
LOCAL TIME 2000 (H)
IN SUN FROM 59970. TO 61920.
IN SHADE FROM 61920. TO 61320.

KP=2+
F10.7=97.0



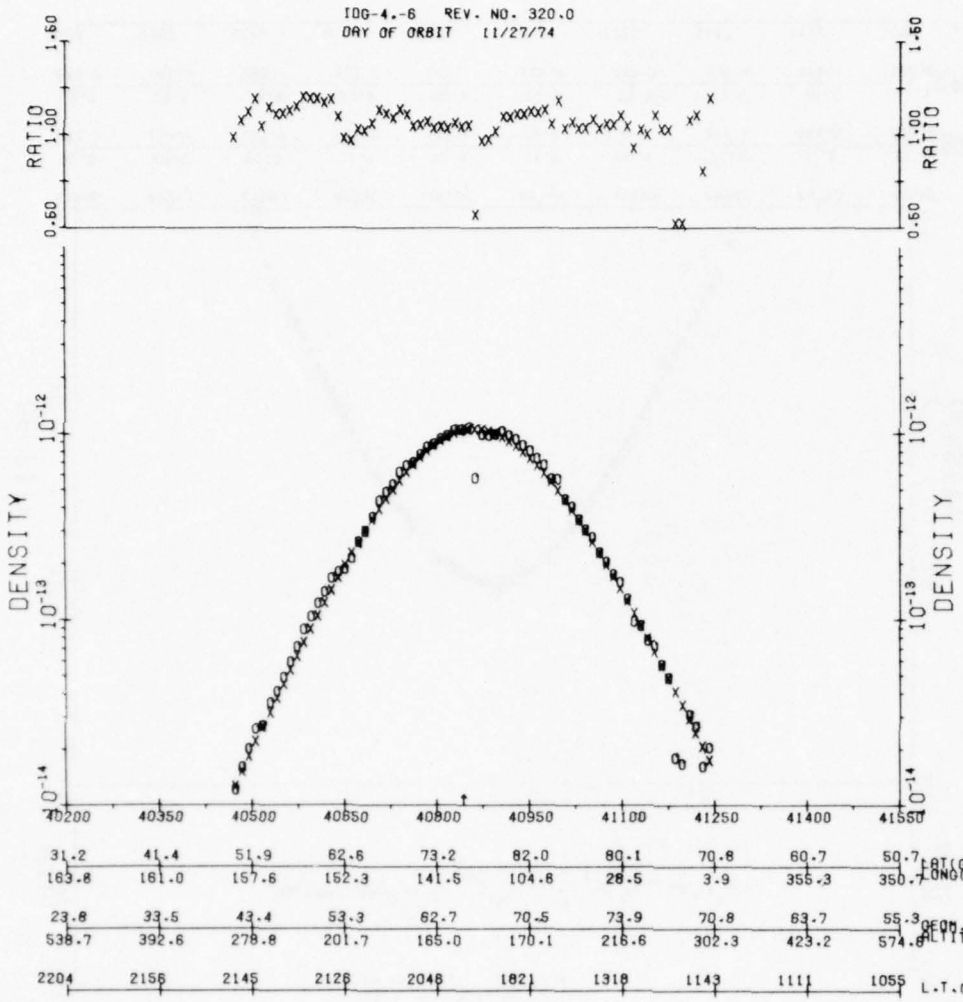
PERIGEE
ALT(KM.)= 162.25
LONG(E)= 346.71
LAT(DEG.)= 78.05
GMT(SEC.)= 75442.6 (2057H)
LOCAL TIME 2004 (H)
IN SUN FROM 74770. TO 76740.
IN SHADE FROM 76740. TO 76120.

KP=4+
F10.7=97.0



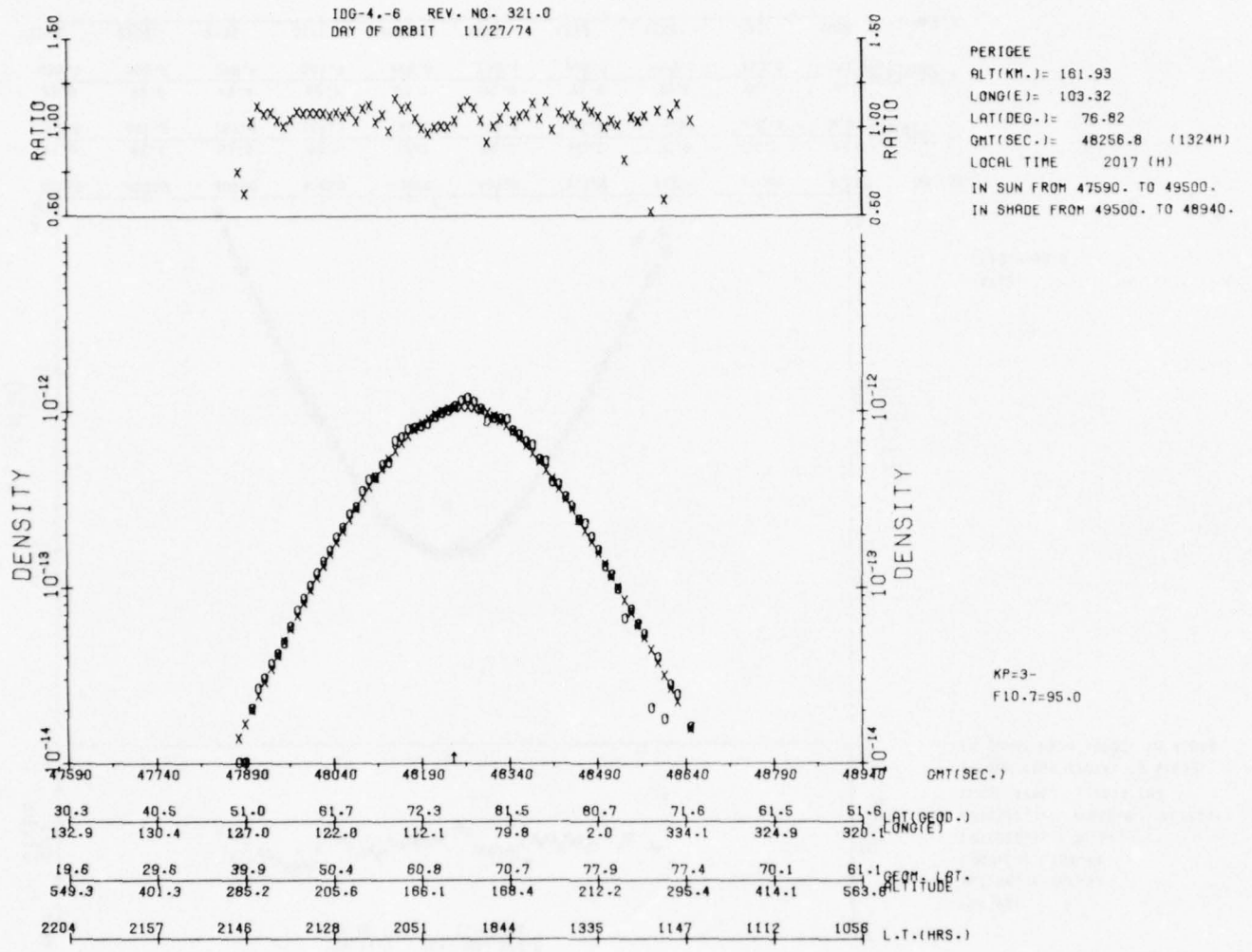
PERIGEE
ALT(KM.)= 162.01
LONG(E)= 164.16
LAT(DEG.)= 77.12
GMT(SEC.)= 33456.4 (0917M)
LOCAL TIME 2014 (H)
IN SUN FROM 32770. TO 34740.
IN SHADE FROM 34740. TO 34120.

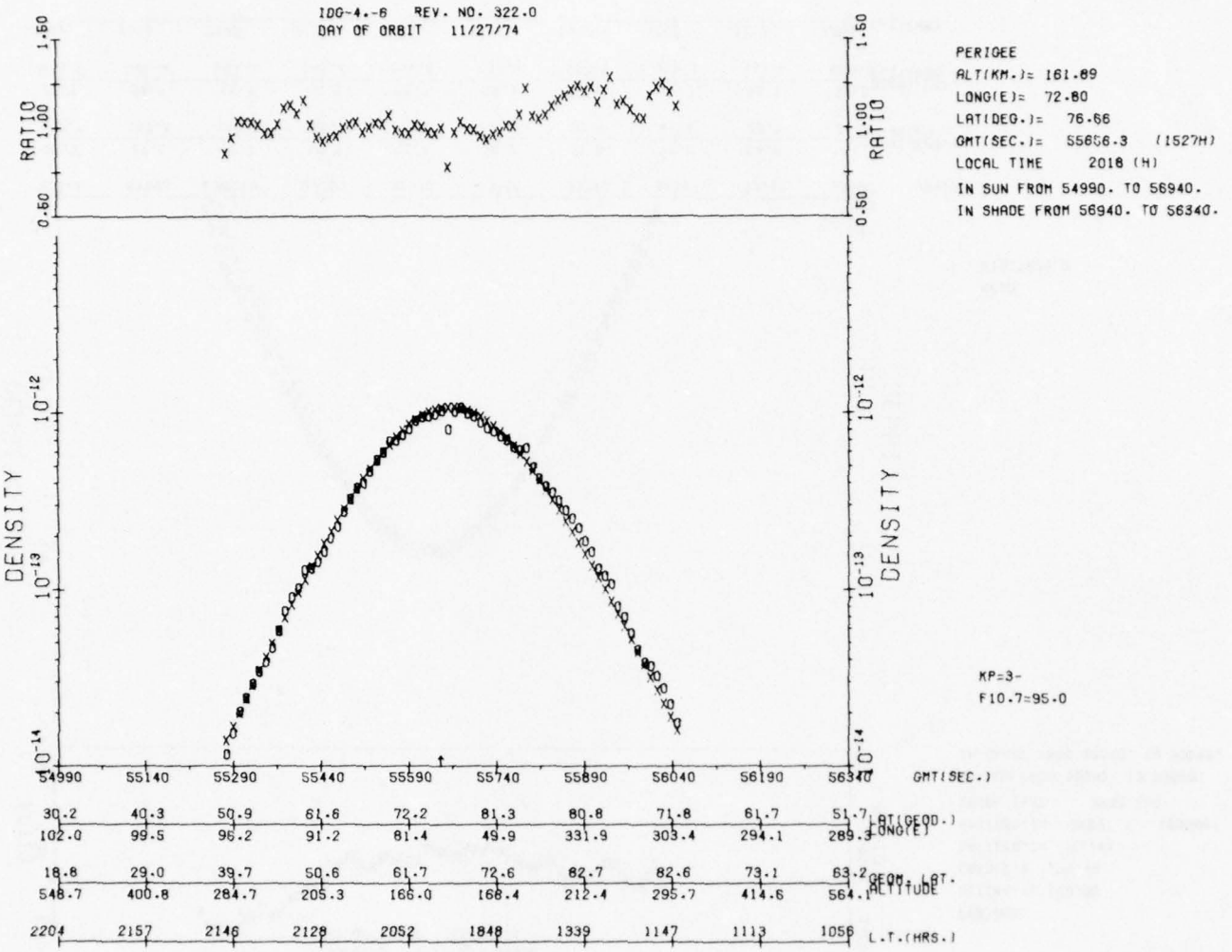
KP=3
F10.7=95.0

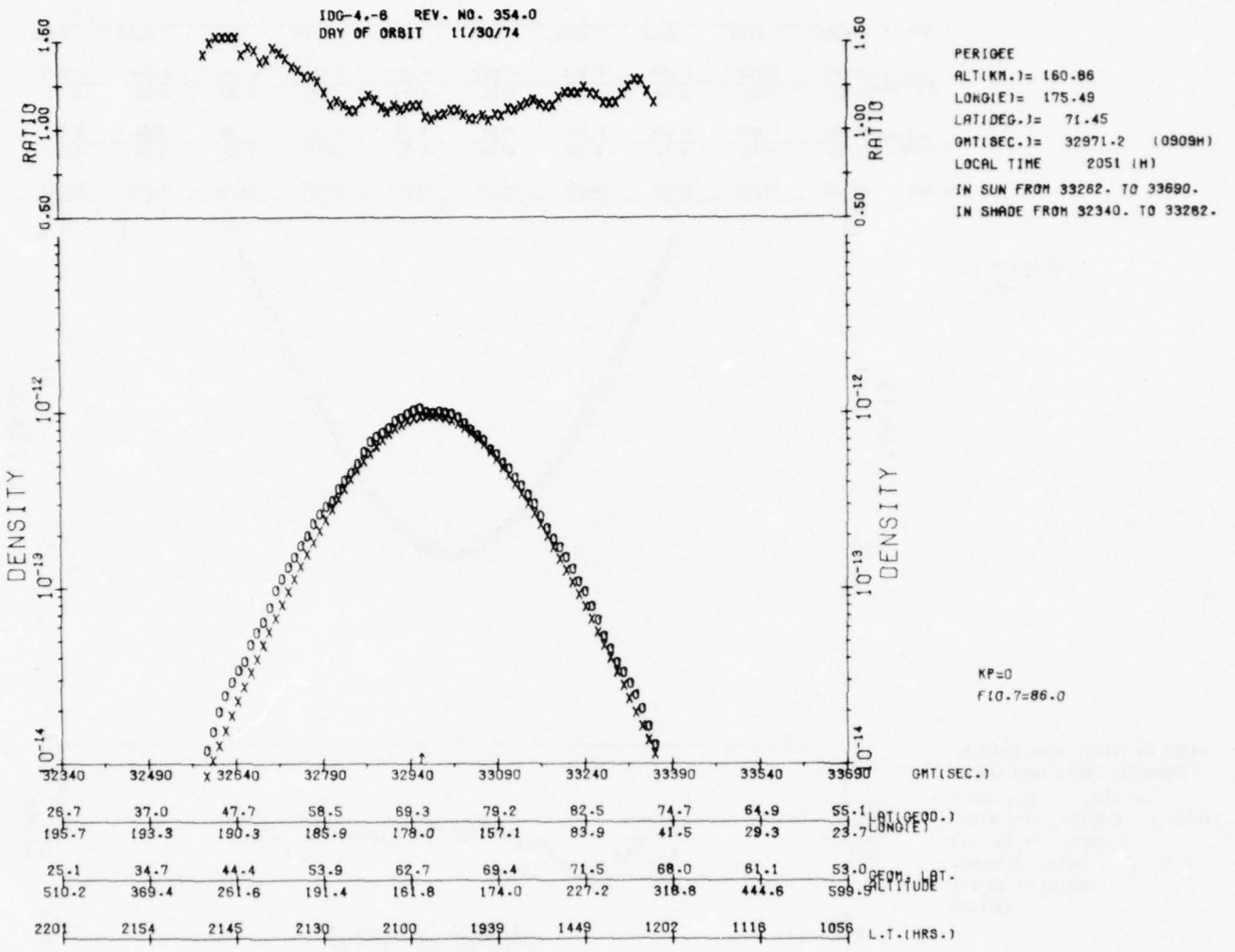


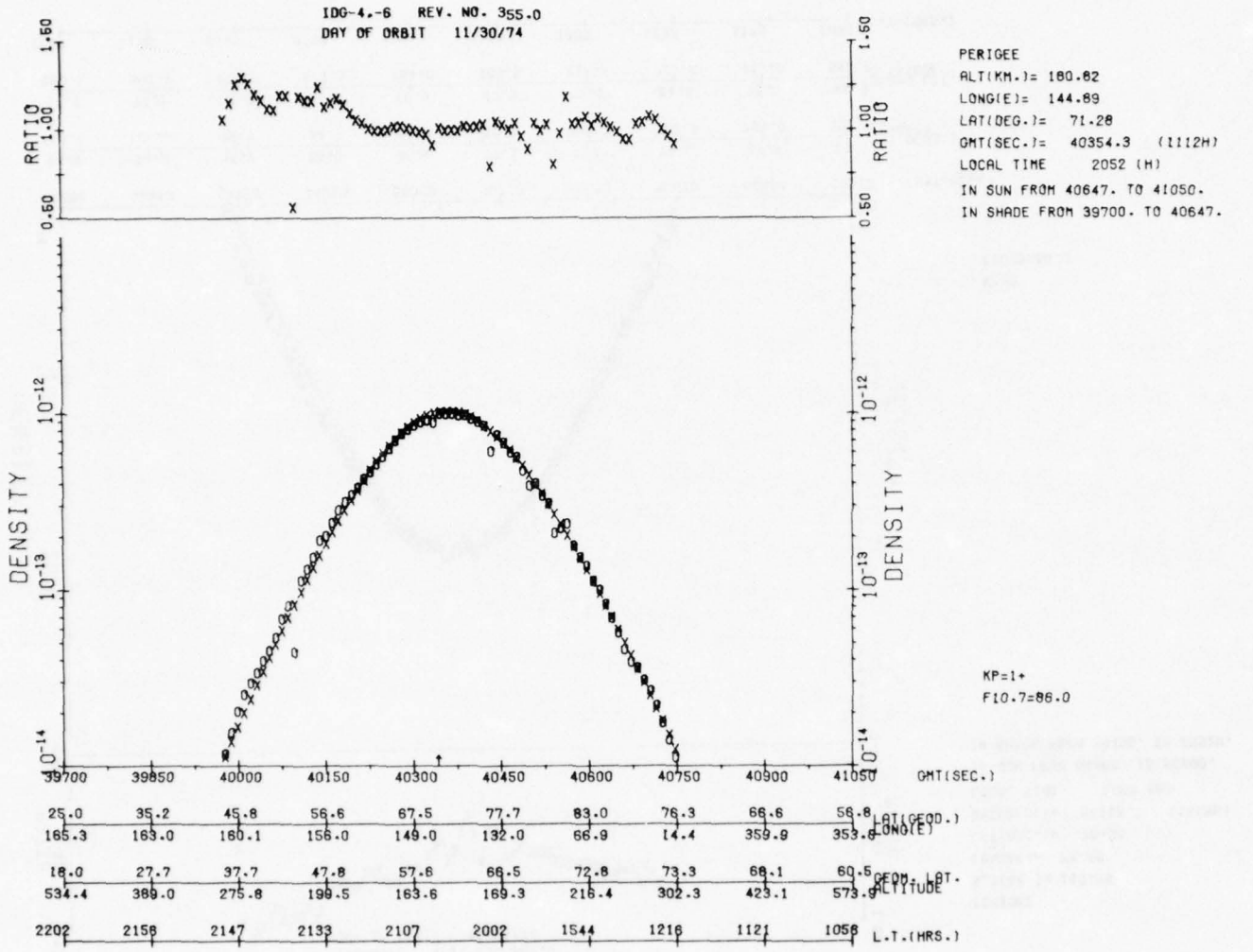
PERIGEE
ALT(KM.)= 161.97
LONG(E)= 133.44
LAT(DEG.)= 76.94
GMT(SEC.)= 40856.9 (1120H)
LOCAL TIME 2014 (H)
IN SUN FROM 41074. TO 41550.
IN SHADE FROM 40200. TO 41074.

KP=3-
F10.7=95.0


IDG-4.-6 REV. NO. 321.0
DAY OF ORBIT 11/27/74
RATIO
1.50
1.00
0.60
DENSITY
10^{-12}
10^{-13}
10^{-14}
PERIGEE
ALT(KM.)= 161.93
LONG(E)= 103.32
LAT(DEG.)= 76.82
GMT(SEC.)= 48256.8 (1324H)
LOCAL TIME 2017 (H)
IN SUN FROM 47590. TO 49500.
IN SHADE FROM 49500. TO 48940.
KP=3-
F10.7=95.0
47590 47740 47890 48040 48190 48340 48490 48640 48790 48940 GMT(SEC.)
30.3 40.5 51.0 61.7 72.3 81.5 80.7 71.6 61.5 51.6 LAT(GEOD.)
132.9 130.4 127.0 122.8 112.1 79.8 2.0 334.1 324.9 320.1 LONG(E)
19.6 29.6 39.9 50.4 60.8 70.7 77.9 77.4 70.1 61.1 GEOM. LAT.
549.3 401.3 285.2 205.6 166.1 168.4 212.2 295.4 414.1 563.8 ALTITUDE
2204 2157 2148 2128 2051 1844 1335 1147 1112 1056 L.T.(HRS.)

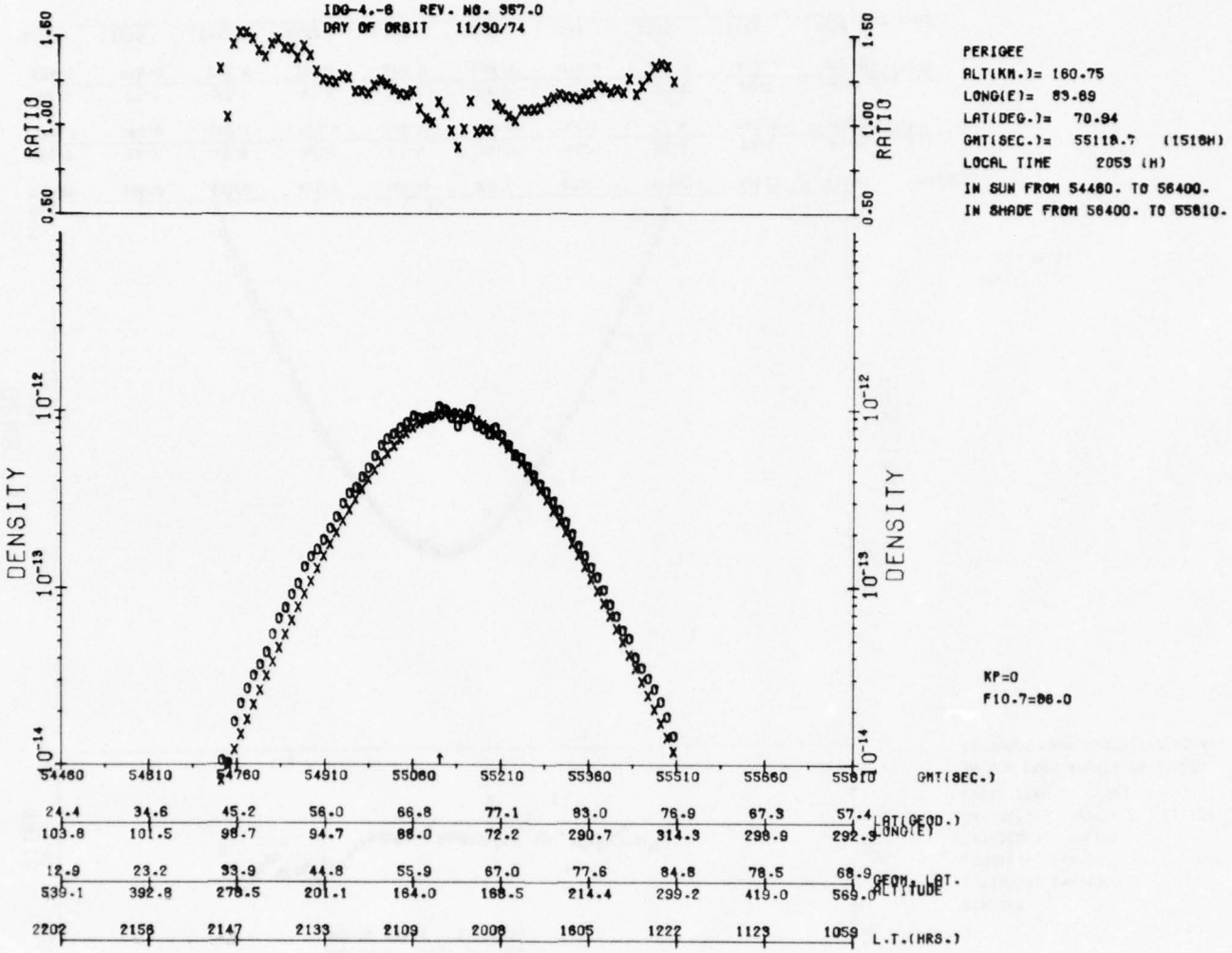

IDG-4.-6 REV. NO. 322.0
DAY OF ORBIT 11/27/74
RATIO
1.50
1.00
0.50
DENSITY
10^{-12}
10^{-13}
10^{-14}
PERIGEE
ALT(KM.)= 161.89
LONG(E)= 72.80
LAT(DEG.)= 76.66
GMT(SEC.)= 55656.3 (1527H)
LOCAL TIME 2018 (H)
IN SUN FROM 54990. TO 56940.
IN SHADE FROM 56940. TO 56340.
KP=3-
F10.7=95.0
54990 55140 55290 55440 55590 55740 55890 56040 56190 56340 GMT(SEC.)
30.2 40.3 50.9 61.6 72.2 81.3 80.8 71.8 61.7 51.7 LAT(GEOD.)
102.0 99.5 96.2 91.2 81.4 49.9 331.9 303.4 294.1 289.3 LONG(E)
18.8 29.0 39.7 50.6 61.7 72.6 82.7 82.6 73.1 63.2 GEOM. LAT.
548.7 400.8 284.7 205.3 166.0 168.4 212.4 295.7 414.6 564.1 ALTITUDE
2204 2157 2146 2128 2052 1848 1339 1147 1113 1056 L.T.(HRS.)


IDG-4.-6 REV. NO. 354.0
DAY OF ORBIT 11/30/74
RATIO
1.60
1.00
0.50
DENSITY
10^{-12}
10^{-13}
10^{-14}
PERIGEE
ALT(KM.)= 160.86
LONG(E)= 175.49
LAT(DEG.)= 71.45
GMT(SEC.)= 32971.2 (0909H)
LOCAL TIME 2051 (H)
IN SUN FROM 33262. TO 33690.
IN SHADE FROM 32340. TO 33262.
KP=0
F10.7=86.0
32340 32490 32640 32790 32940 33090 33240 33390 33540 33690 GMT(SEC.)
26.7 37.0 47.7 58.5 69.3 79.2 82.5 74.7 64.9 55.1 LAT(GEOD.)
195.7 193.3 190.3 185.9 178.0 157.1 83.9 41.5 29.3 23.7 LONG(E)
25.1 34.7 44.4 53.9 62.7 69.4 71.5 68.0 61.1 53.0 GEOM. LAT.
510.2 369.4 261.6 191.4 161.8 174.0 227.2 318.8 444.6 599.5 ALTITUDE
2201 2154 2145 2130 2100 1939 1449 1202 1118 1056 L.T.(HRS.)



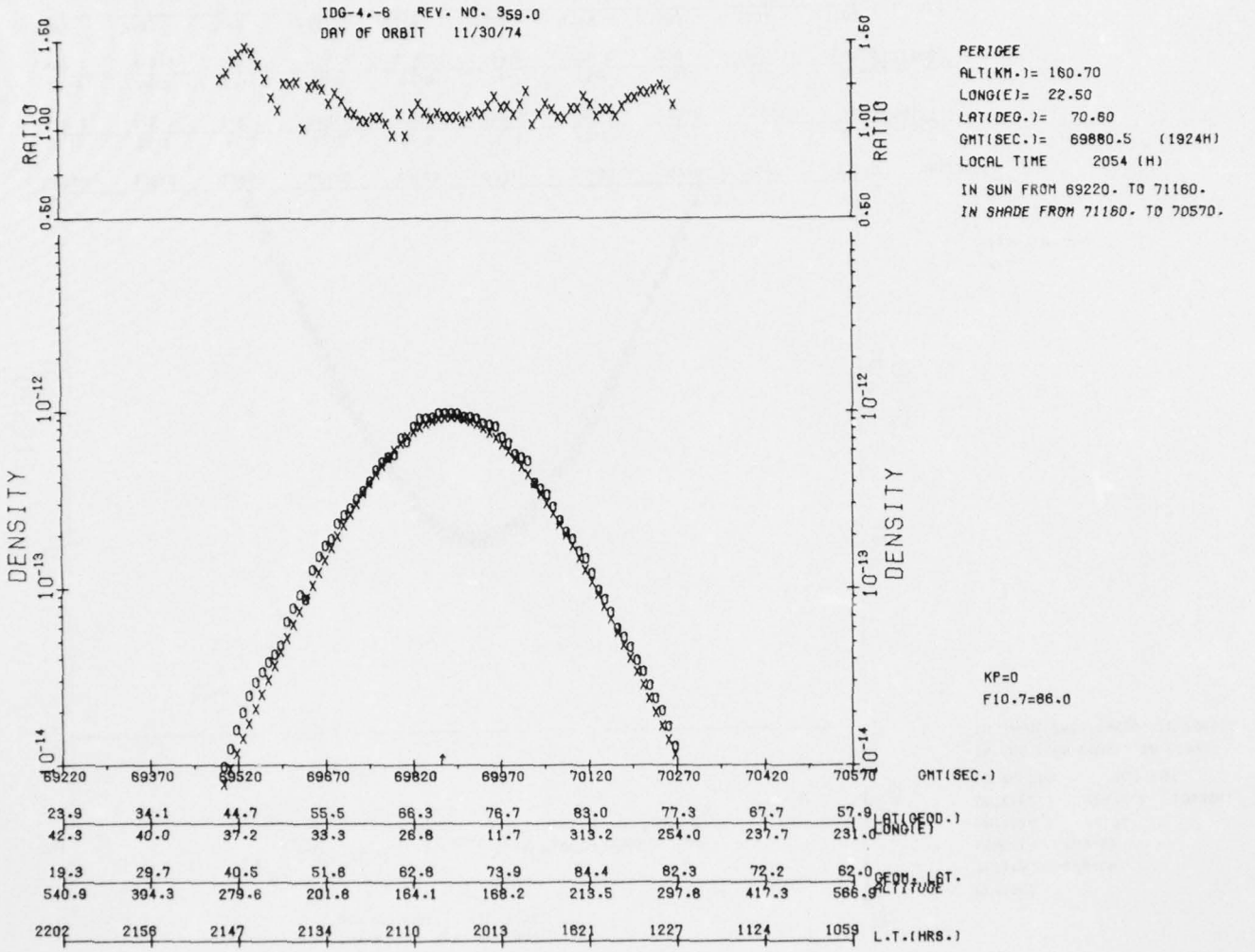
PERIGEE
ALT(KM.)= 180.82
LONG(E)= 144.89
LAT(DEG.)= 71.28
GMT(SEC.)= 40354.3 (1112H)
LOCAL TIME 2052 (H)
IN SUN FROM 40647. TO 41050.
IN SHADE FROM 39700. TO 40647.

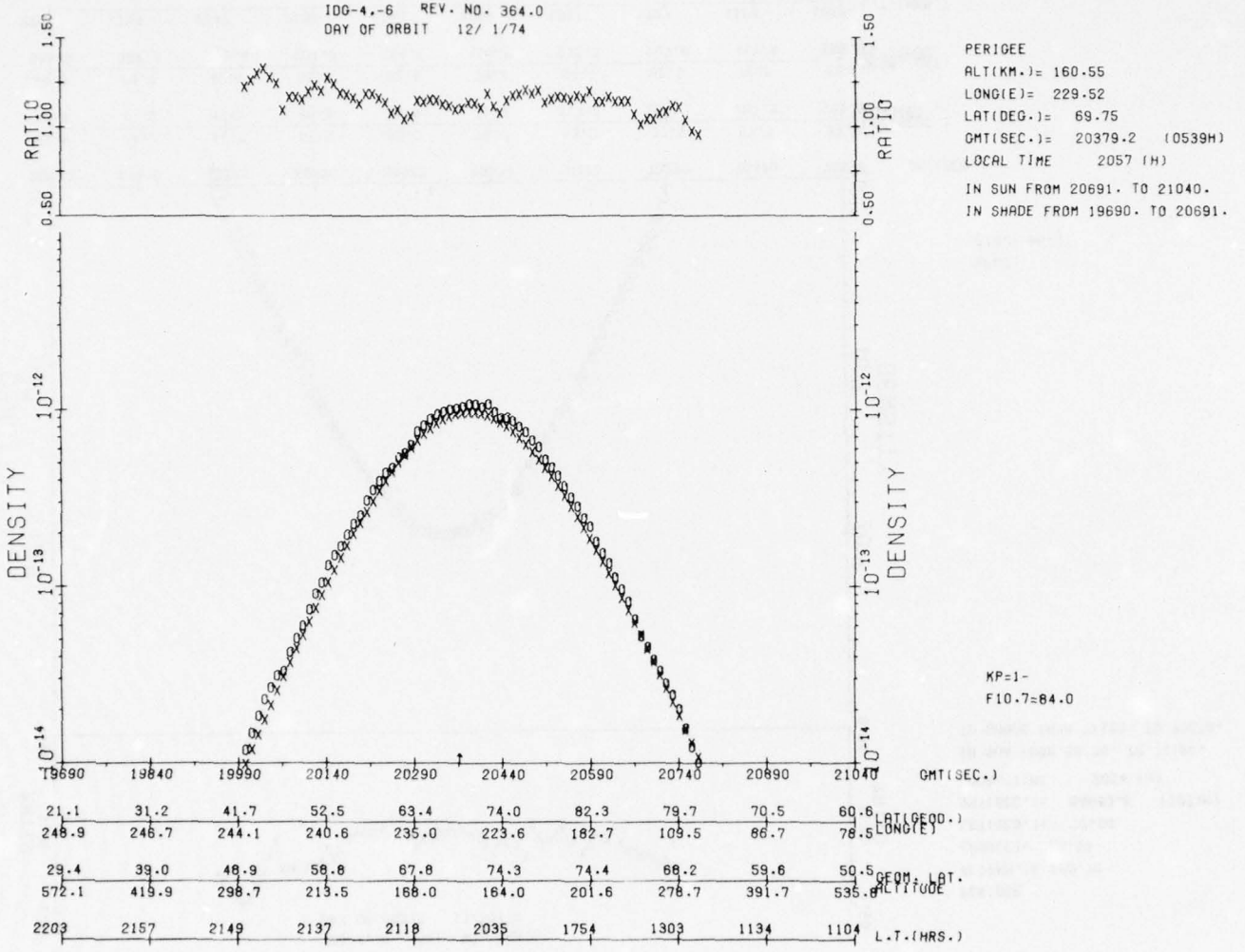
KP=1+
F10.7=86.0



PERIGEE
ALT(KM.)= 160.75
LONG(E)= 89.89
LAT(DEG.)= 70.94
GMT(SEC.)= 55110.7 (1518H)
LOCAL TIME 2053 (H)
IN SUN FROM 54460. TO 56400.
IN SHADE FROM 56400. TO 55810.

KP=0
F10.7=86.0

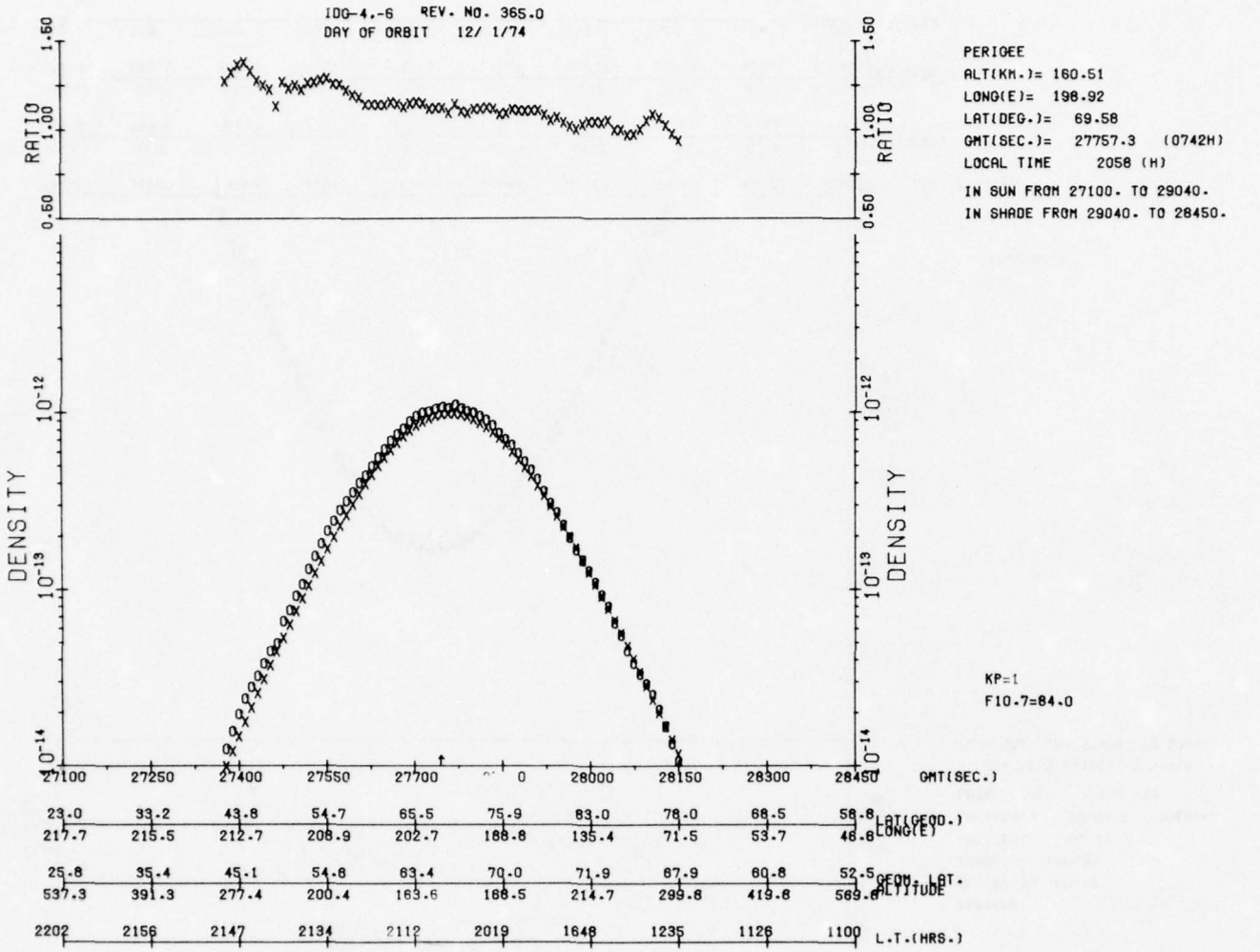

IDG-4,-6 REV. NO. 359.0
DAY OF ORBIT 11/30/74
RATIO
1.50
1.00
0.50
DENSITY
10^{-12}
10^{-13}
10^{-14}
PERIGEE
ALT(KM.)= 160.70
LONG(E)= 22.50
LAT(DEG.)= 70.60
GMT(SEC.)= 69880.5 (1924H)
LOCAL TIME 2054 (H)
IN SUN FROM 69220. TO 71160.
IN SHADE FROM 71180. TO 70570.
KP=0
F10.7=86.0
69220 69370 69520 69670 69820 69970 70120 70270 70420 70570 GMT(SEC.)
23.9 34.1 44.7 55.5 66.3 76.7 83.0 77.3 67.7 57.9 LAT(GEOD.)
42.3 40.0 37.2 33.3 28.8 11.7 313.2 254.0 237.7 231.0 LONG(E)
19.3 29.7 40.5 51.8 62.8 73.9 84.4 82.3 72.2 62.0 GEOM. LAT.
540.9 394.3 279.6 201.8 164.1 168.2 213.5 297.8 417.3 566.9 ALTITUDE
2202 2156 2147 2134 2110 2013 1821 1227 1124 1059 L.T.(HRS.)

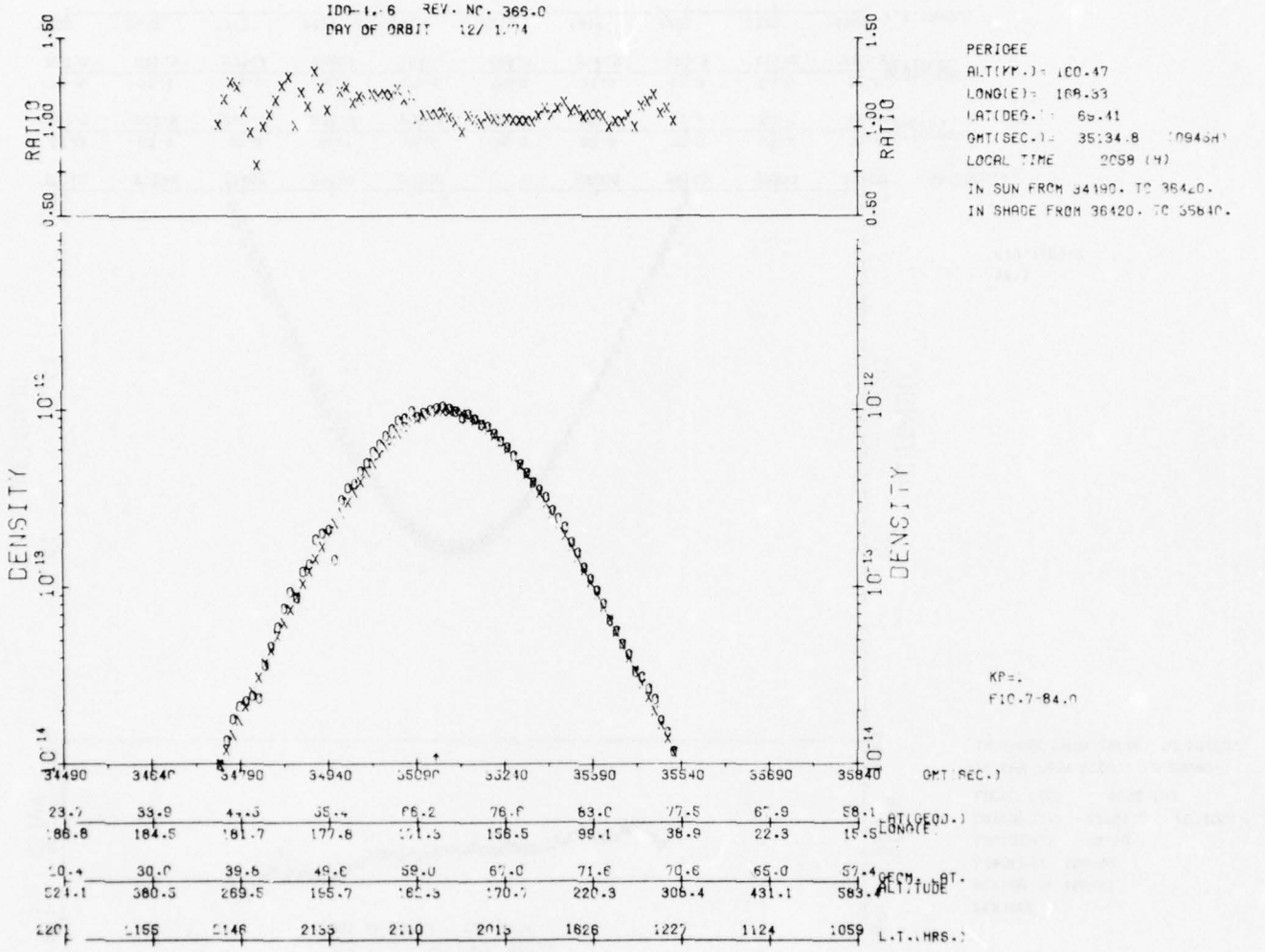


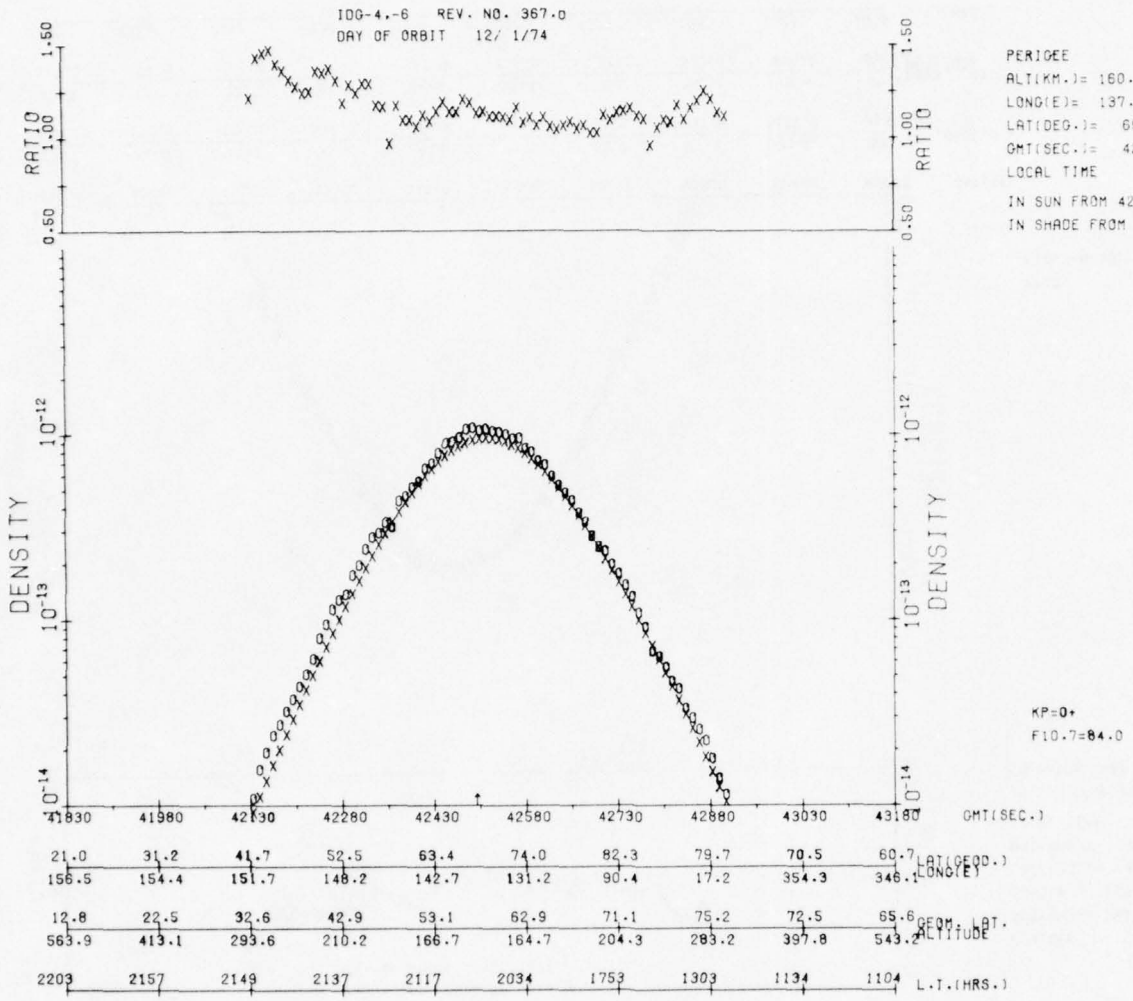
PERIGEE
ALT(KM.)= 160.55
LONG(E)= 229.52
LAT(DEG.)= 69.75
GMT(SEC.)= 20379.2 (0539H)
LOCAL TIME 2057 (H)

IN SUN FROM 20691. TO 21040.
IN SHADE FROM 19690. TO 20691.

KP=1-
F10.7=84.0


IDG-4.-6 REV. NO. 365.0
DAY OF ORBIT 12/ 1/74
RATIO
1.60
1.00
0.60
DENSITY
10^{-12}
10^{-13}
10^{-14}
PERIGEE
ALT(KM.)= 160.51
LONG(E)= 198.92
LAT(DEG.)= 69.58
GMT(SEC.)= 27757.3 (0742H)
LOCAL TIME 2058 (H)
IN SUN FROM 27100. TO 29040.
IN SHADE FROM 29040. TO 28450.
KP=1
F10.7=84.0
27100 27250 27400 27550 27700 0 28000 28150 28300 28450 GMT(SEC.)
23.0 33.2 43.8 54.7 65.5 75.9 83.0 78.0 68.5 58.8 LAT(GEOD.)
217.7 215.5 212.7 208.9 202.7 188.8 135.4 71.5 53.7 48.6 LONG(E)
25.8 35.4 45.1 54.8 63.4 70.0 71.9 67.9 60.8 52.5 GEOM. LAT.
537.3 391.3 277.4 200.4 163.6 168.5 214.7 299.8 419.8 569.8 ALTITUDE
2202 2156 2147 2134 2112 2019 1648 1235 1126 1100 L.T.(HRS.)

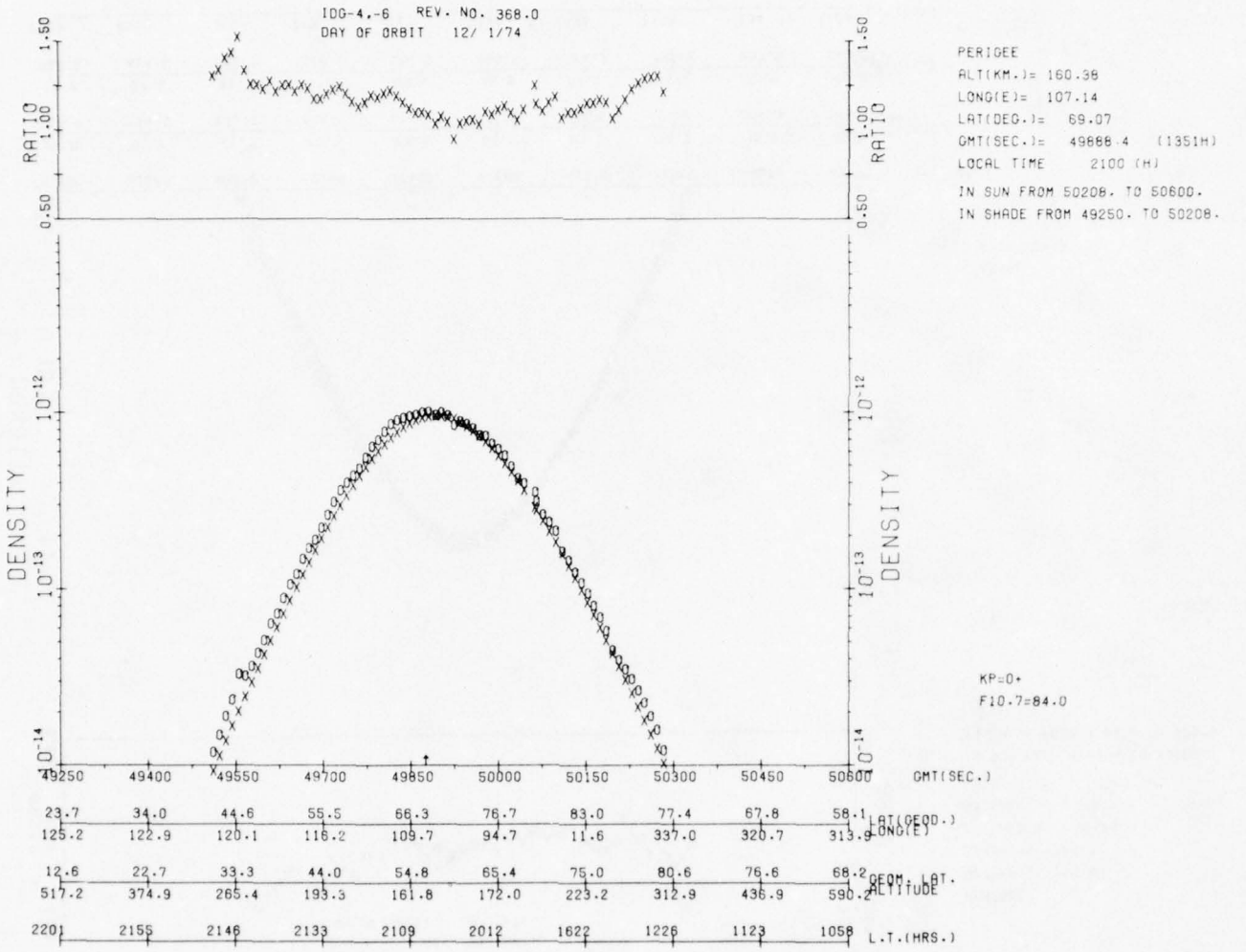

IDN 1.6 REV. NO. 368.0
DAY OF ORBIT 12/ 1.774
RATIO
1.50
1.00
0.50
DENSITY
10^-12
10^-13
10^-14
PERIGEE
ALT(KM.)= 100.47
LONG(E)= 168.53
LAT(DEG.)= 66.41
GMT(SEC.)= 35134.8 (09454)
LOCAL TIME 2058 (H)
IN SUN FROM 34190. TO 36420.
IN SHADE FROM 36420. TO 35640.
KP=.
F10.7-84.0
34490 34640 34790 34940 35090 35240 35390 35540 35690 35840 GMT(SEC.)
23.7 33.9 44.3 55.4 66.2 76.6 83.0 77.5 67.9 58.1 LAT(DEG.)
186.8 184.5 181.7 177.8 171.5 158.5 99.1 38.9 22.3 15.5 LONGITUDE
10.4 30.0 39.6 49.6 59.0 67.0 71.6 70.6 65.0 57.4 GEOM. LAT.
524.1 380.3 269.5 185.7 182.3 170.7 220.3 306.4 431.1 583.4 ALTITUDE
2201 2155 2146 2153 2110 2019 1826 1227 1124 1059 L.T.(HRS.)



PERIGEE
ALT(KM.)= 160.43
LONG(E)= 137.73
LAT(DEG.)= 69.24
GMT(SEC.)= 42511.9 (1148H)
LOCAL TIME 2059 (H)

IN SUN FROM 42830. TO 43180.
IN SHADE FROM 41830. TO 42830.

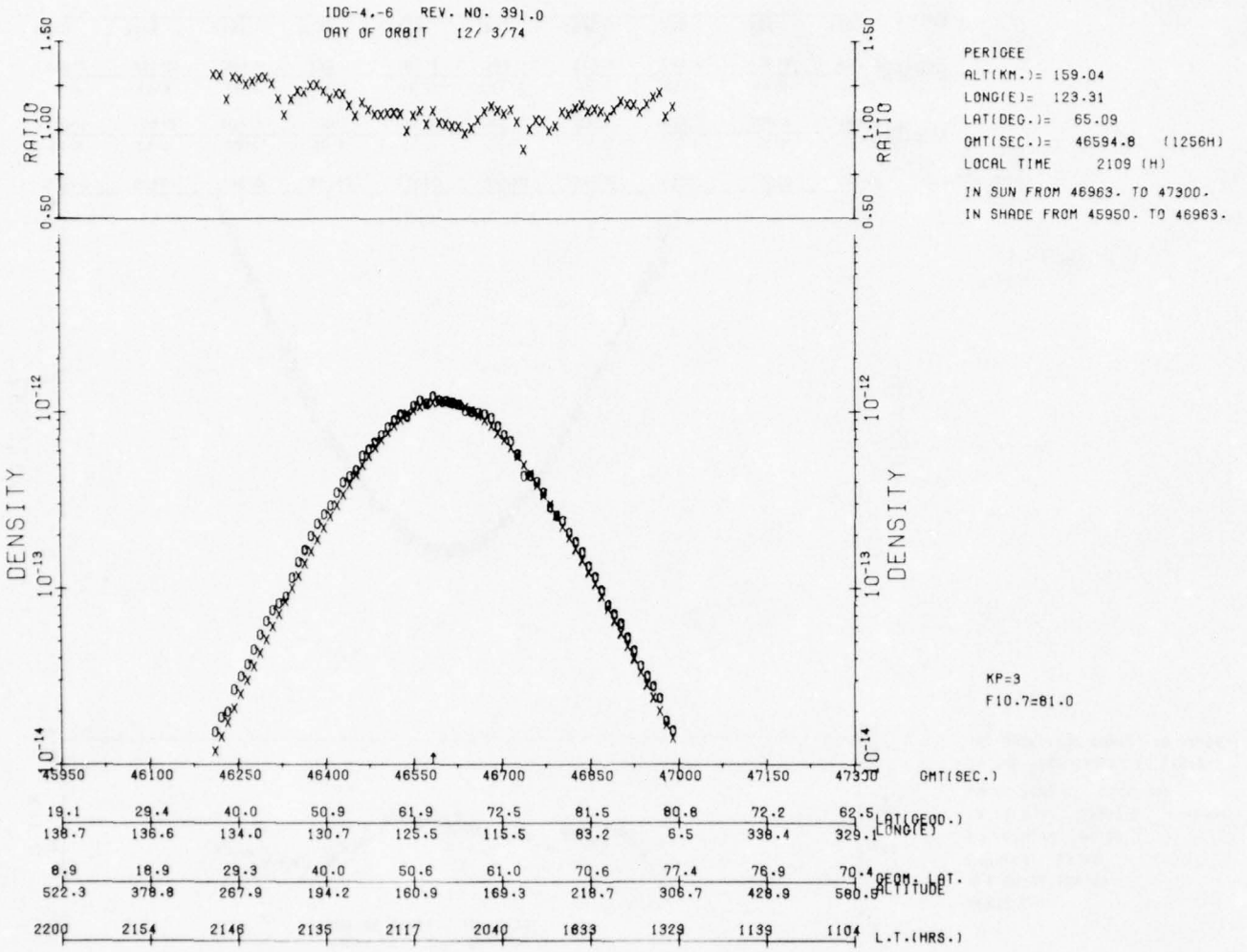
KP=0+
F10.7=84.0



PERIGEE
ALT(KM.)= 160.38
LONG(E)= 107.14
LAT(DEG.)= 69.07
GMT(SEC.)= 49888.4 (1351H)
LOCAL TIME 2100 (H)

IN SUN FROM 50208. TO 50600.
IN SHADE FROM 49250. TO 50208.

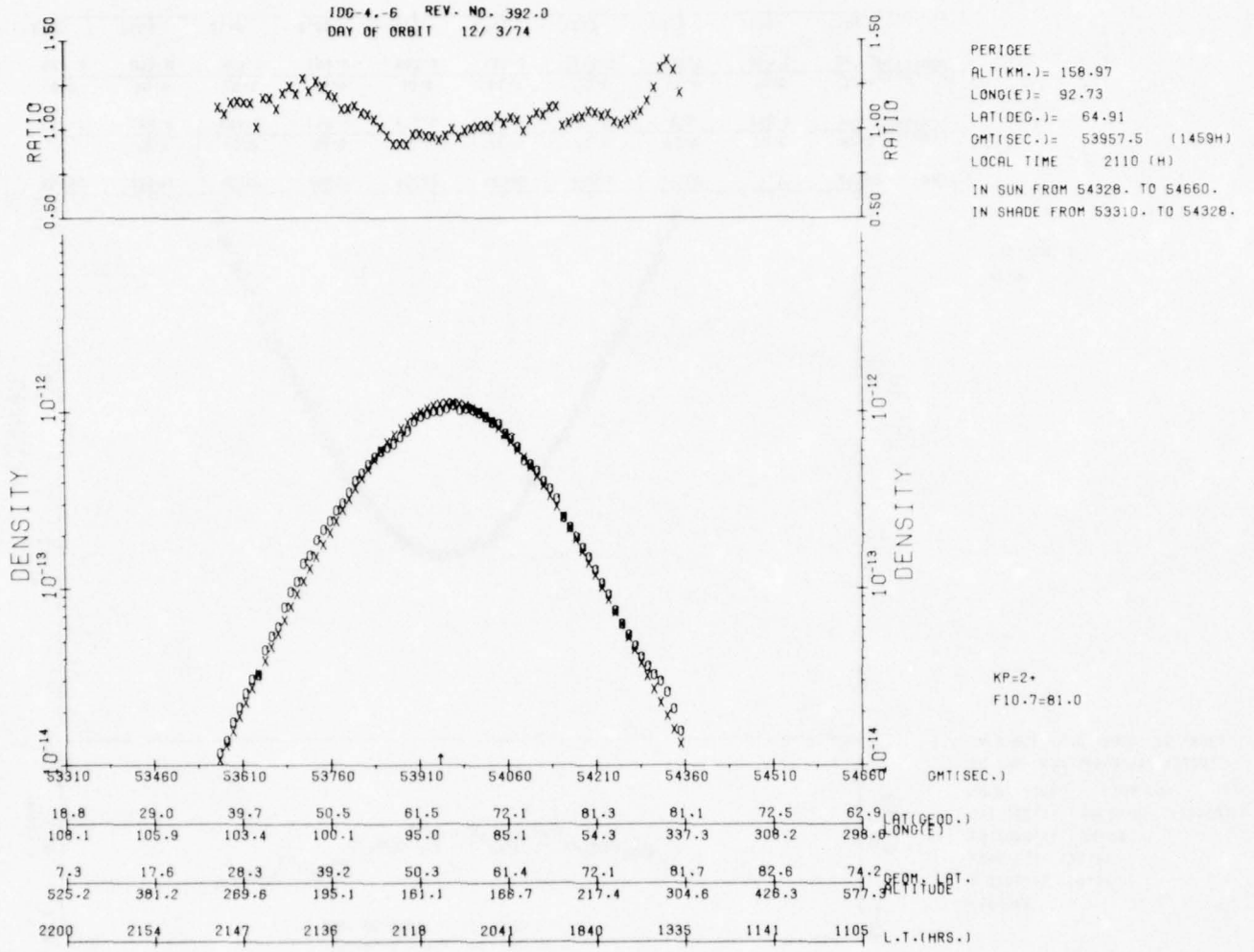
KP=0+
F10.7=84.0



PERIGEE
ALT(KM.)= 159.04
LONG(E)= 123.31
LAT(DEG.)= 65.09
GMT(SEC.)= 46594.8 (1256H)
LOCAL TIME 2109 (H)

IN SUN FROM 46963. TO 47300.
IN SHADE FROM 45950. TO 46963.

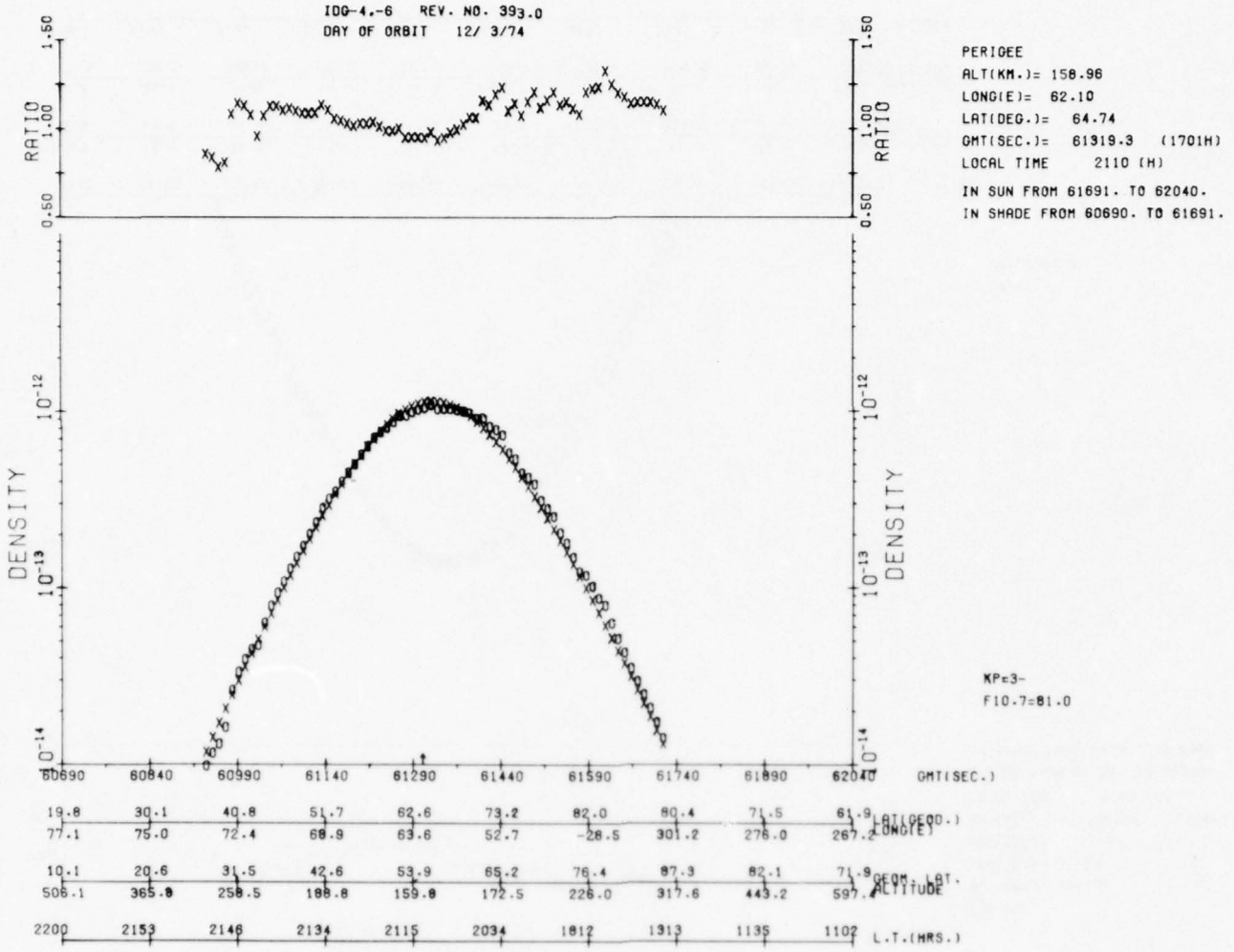
KP=3
F10.7=81.0



PERIGEE
ALT(KM.)= 158.97
LONG(E)= 92.73
LAT(DEG.)= 64.91
GMT(SEC.)= 53957.5 (1459H)
LOCAL TIME 2110 (H)

IN SUN FROM 54328. TO 54660.
IN SHADE FROM 53310. TO 54328.

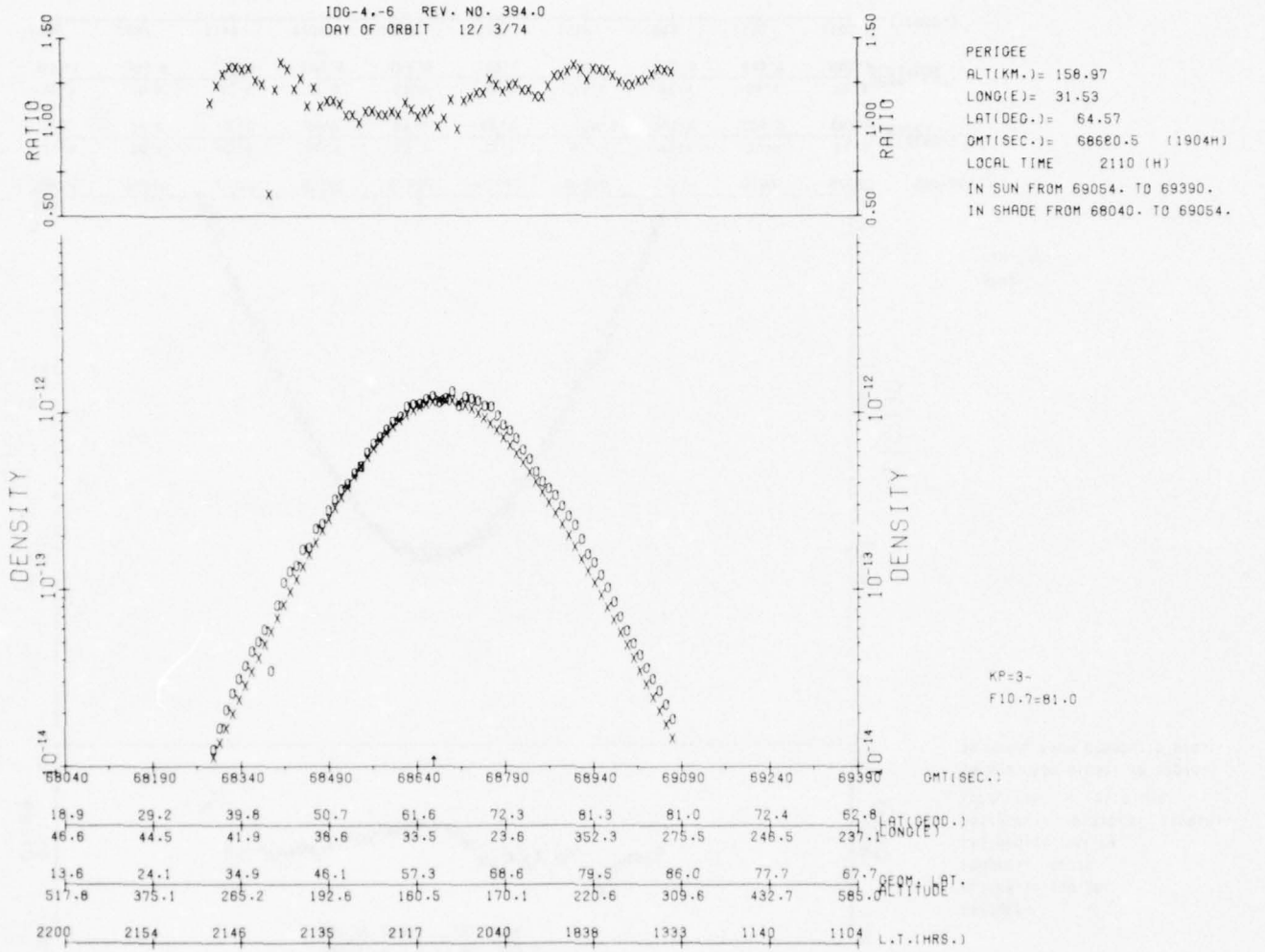
KP=2+
F10.7=81.0



PERIGEE
ALT(KM.)= 158.96
LONG(E)= 62.10
LAT(DEG.)= 64.74
GMT(SEC.)= 61319.3 (1701H)
LOCAL TIME 2110 (H)

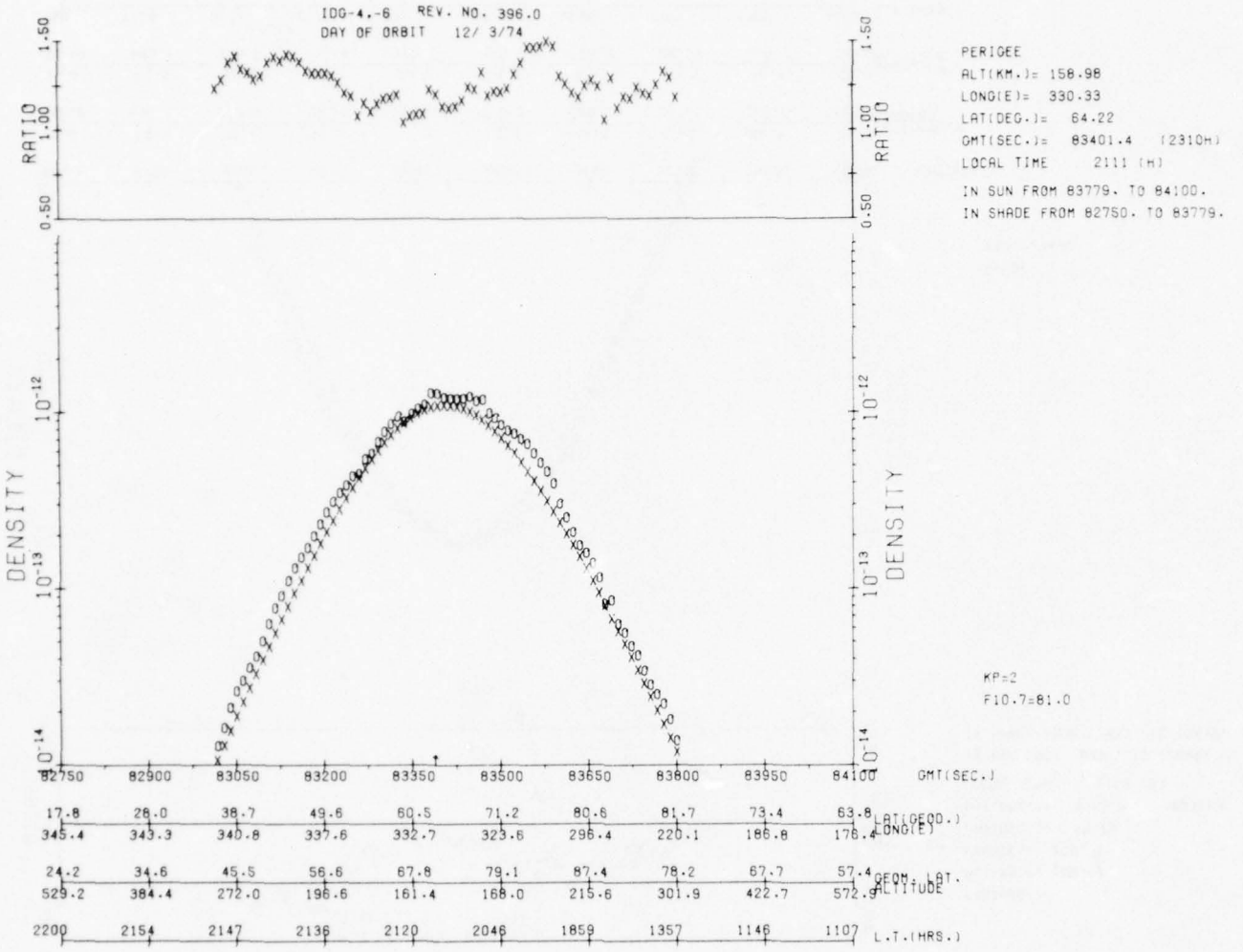
IN SUN FROM 61691. TO 62040.
IN SHADE FROM 60690. TO 61691.

KP=3-
F10.7=81.0



PERIGEE
ALT(KM.)= 158.97
LONG(E)= 31.53
LAT(DEG.)= 64.57
GMT(SEC.)= 68680.5 (1904H)
LOCAL TIME 2110 (H)
IN SUN FROM 69054. TO 69390.
IN SHADE FROM 68040. TO 69054.

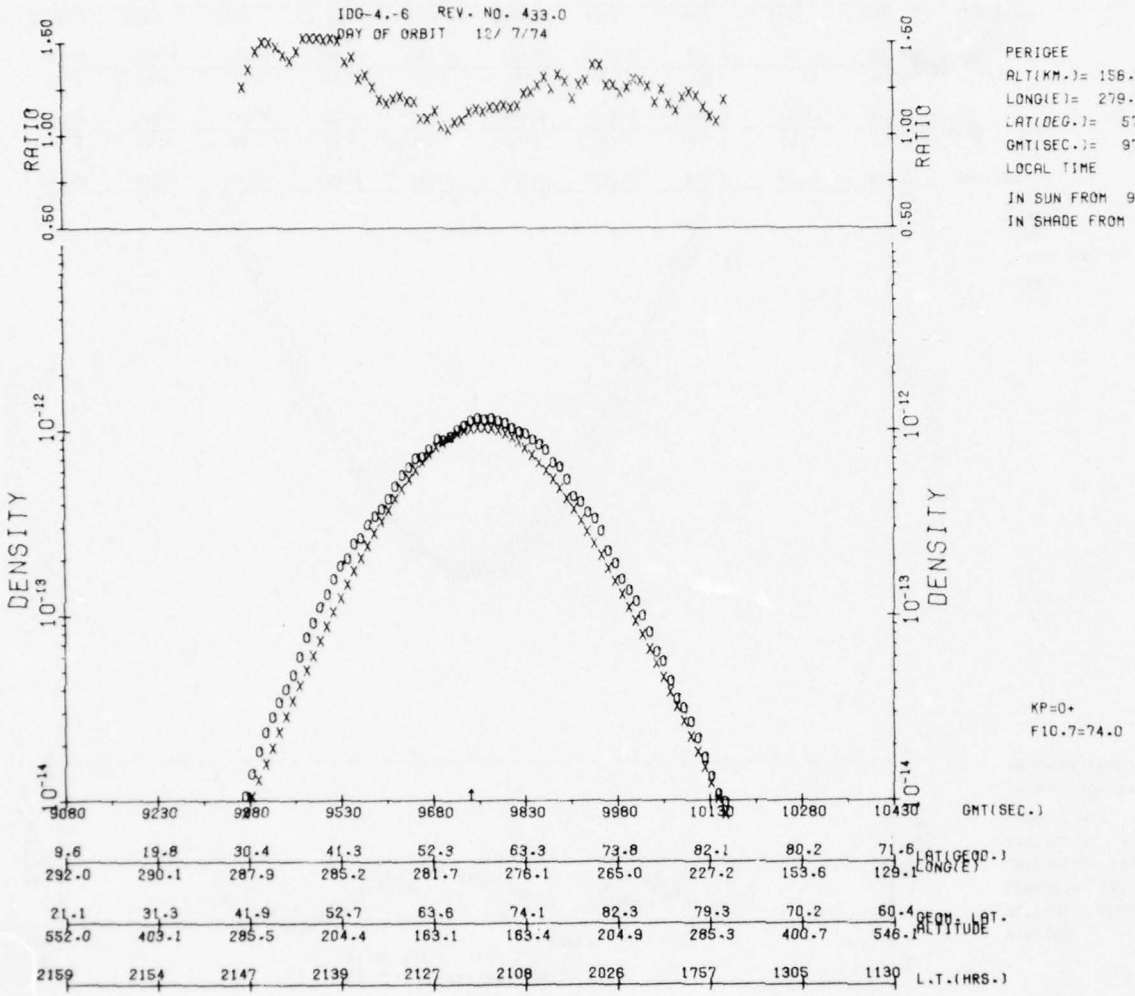
KP=3-
F10.7=81.0



PERIGEE
ALT(KM.)= 158.98
LONG(E)= 330.33
LAT(DEG.)= 64.22
GMT(SEC.)= 83401.4 (2310H)
LOCAL TIME 2111 (H)

IN SUN FROM 83779. TO 84100.
IN SHADE FROM 82750. TO 83779.

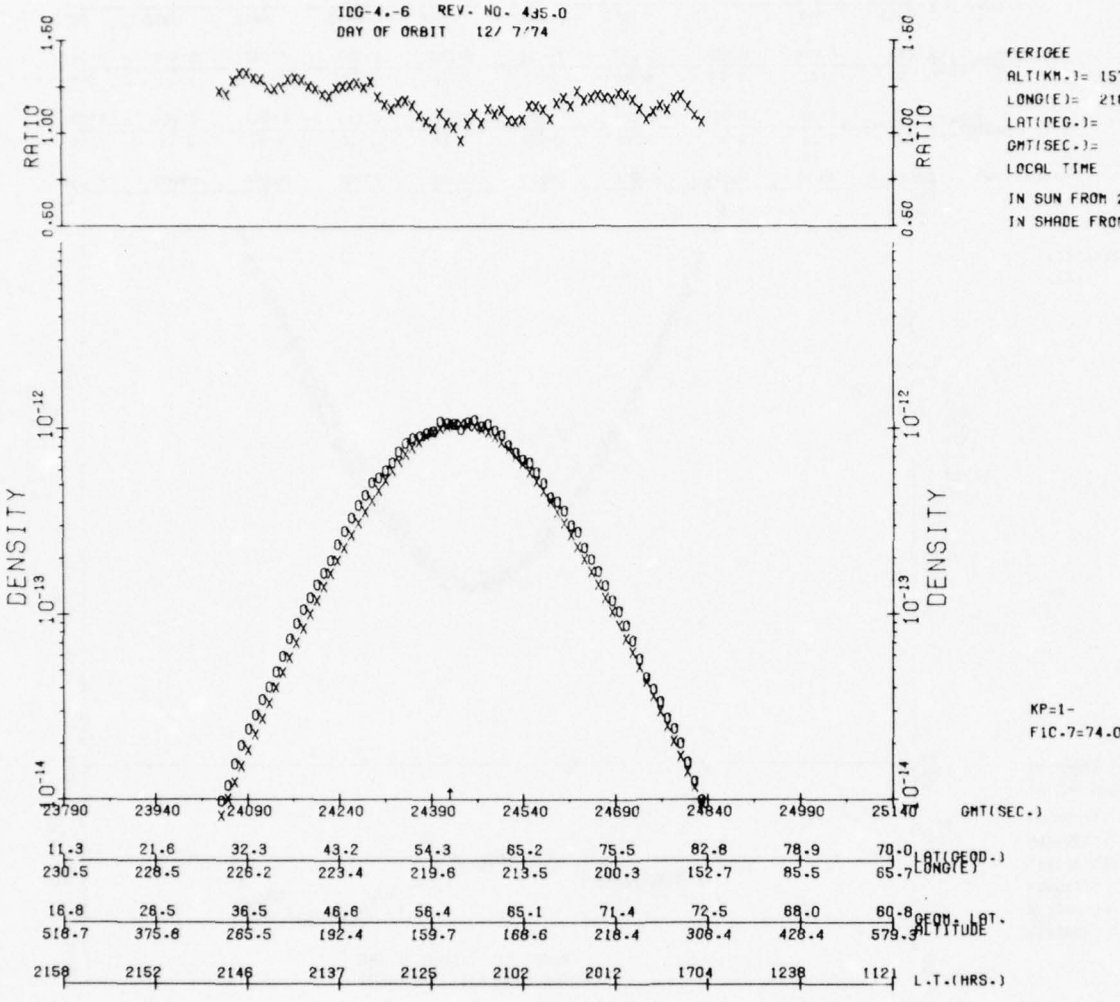
KP=2
F10.7=81.0



PERIGEE
ALT(KM.)= 158.04
LONG(E)= 279.31
LAT(DEG.)= 57.75
GMT(SEC.)= 9753.9 (0242H)
LOCAL TIME 2119 (H)

IN SUN FROM 9080. TO 12640.
IN SHADE FROM 12840. TO 10430.

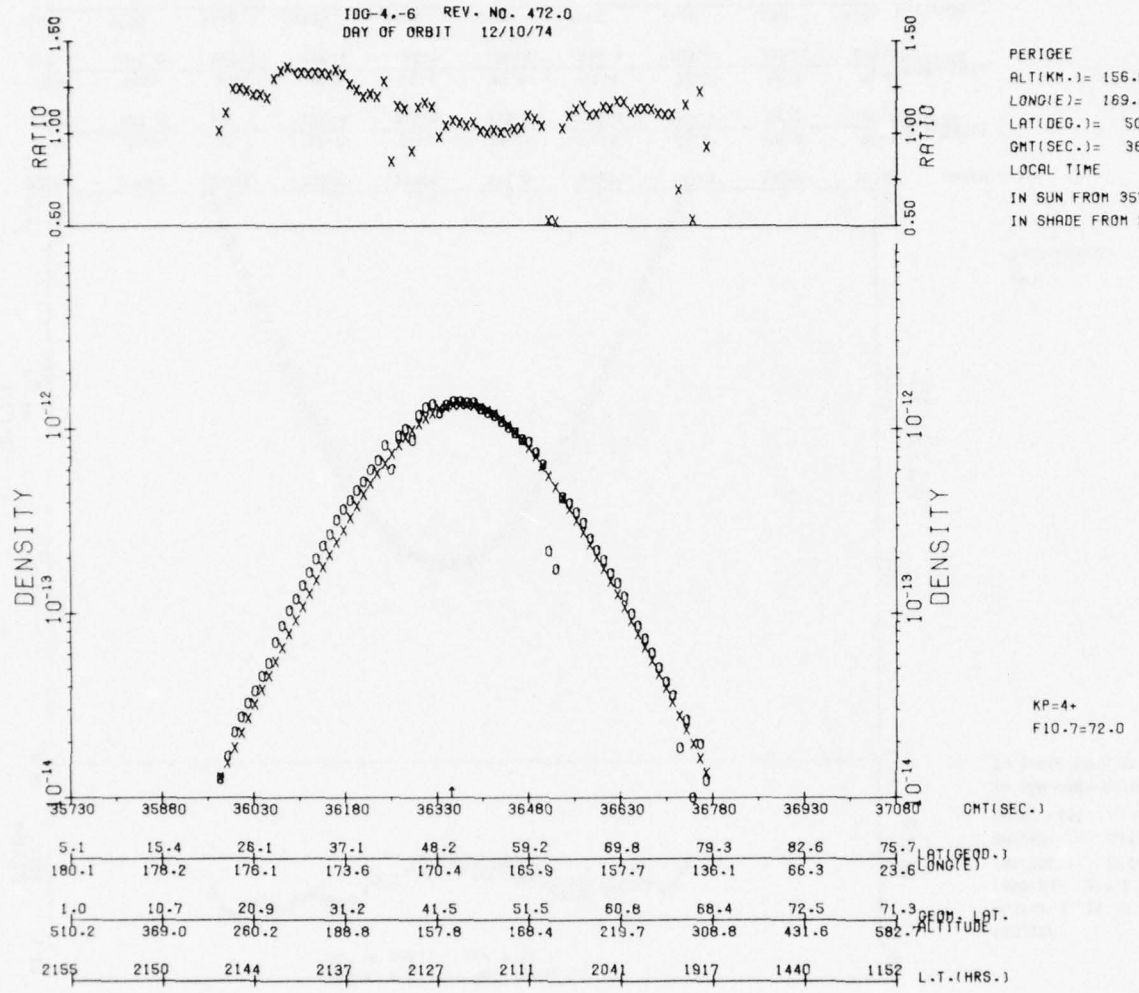
KP=0+
F10.7=74.0



PERIGEE
ALT(KM.)= 157.97
LONG(E)= 218.22
LAT(DEG.)= 57.40
GMT(SEC.)= 24432.8 (0647H)
LOCAL TIME 2120 (H)

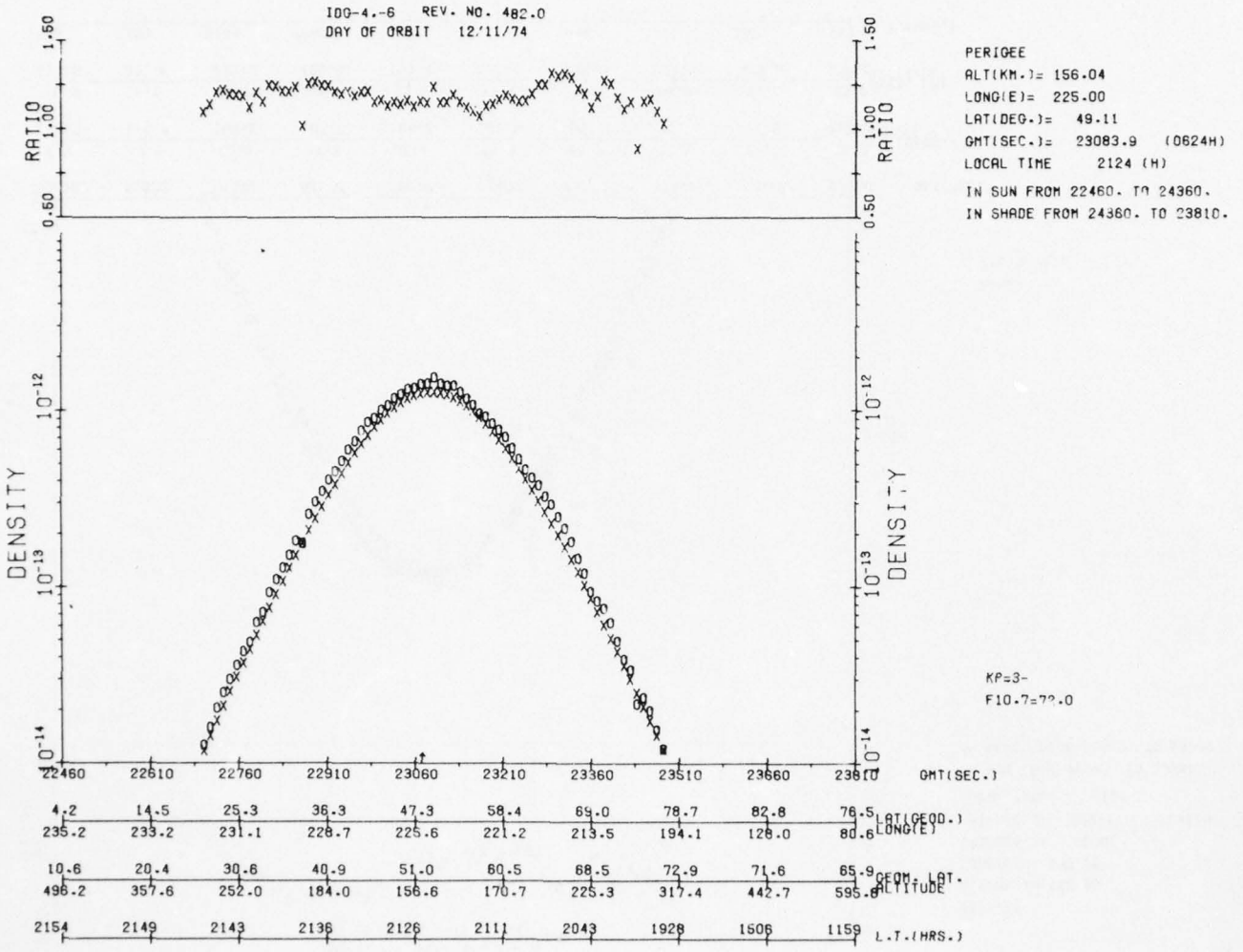
IN SUN FROM 23790. TO 25740.
IN SHADE FROM 25740. TO 25140.

KP=1-
F1C.7=74.0



PERIGEE
ALT(KM.)= 156.56
LONG(E)= 169.49
LAT(DEG.)= 50.88
GMT(SEC.)= 36366.7 (1006H)
LOCAL TIME 2124 (H)
IN SUN FROM 35730. TO 37620.
IN SHADE FROM 37620. TO 37080.

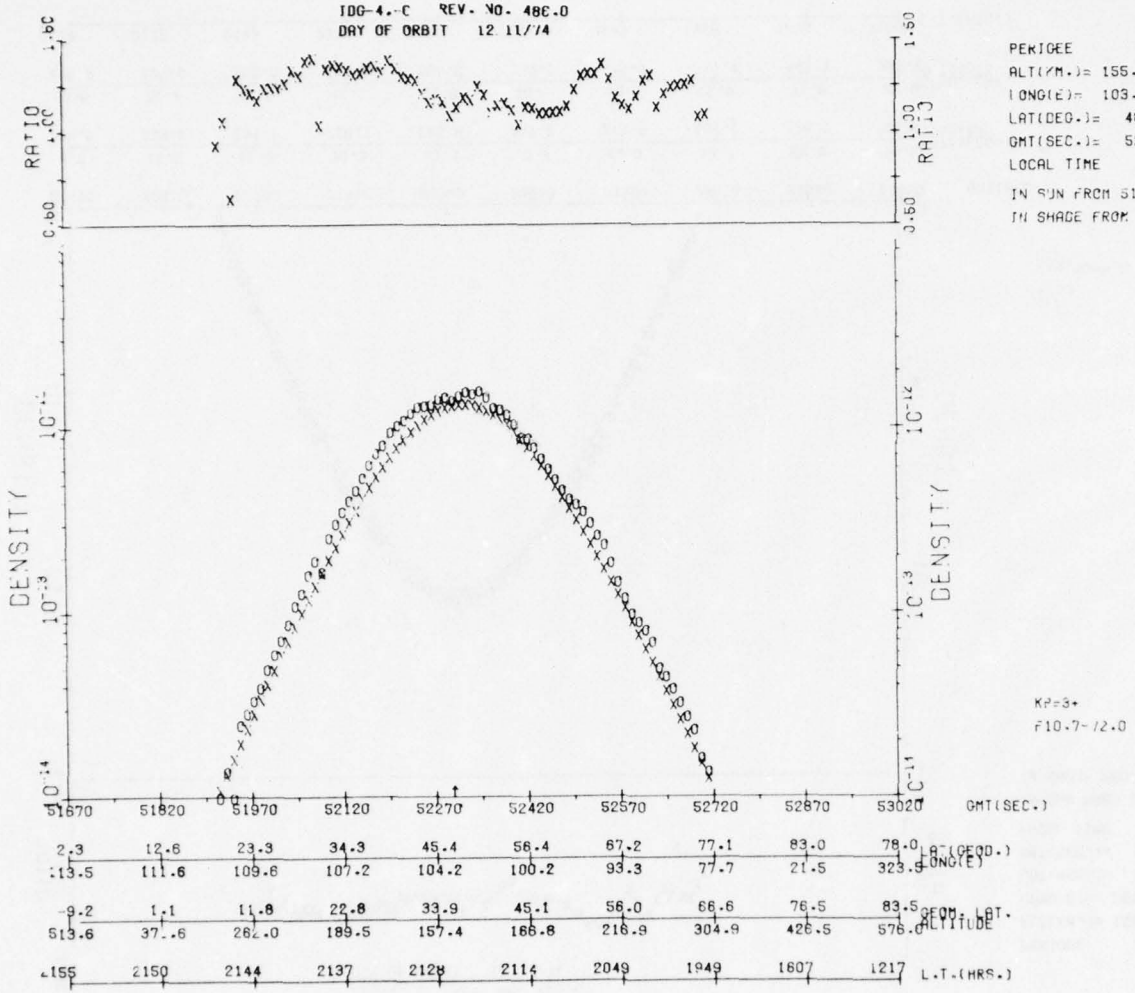
KP=4+
F10.7=72.0



PERIGEE
ALT(KM.)= 156.04
LONG(E)= 225.00
LAT(DEG.)= 49.11
GMT(SEC.)= 23083.9 (0624H)
LOCAL TIME 2124 (H)

IN SUN FROM 22460. TO 24360.
IN SHADE FROM 24360. TO 23810.

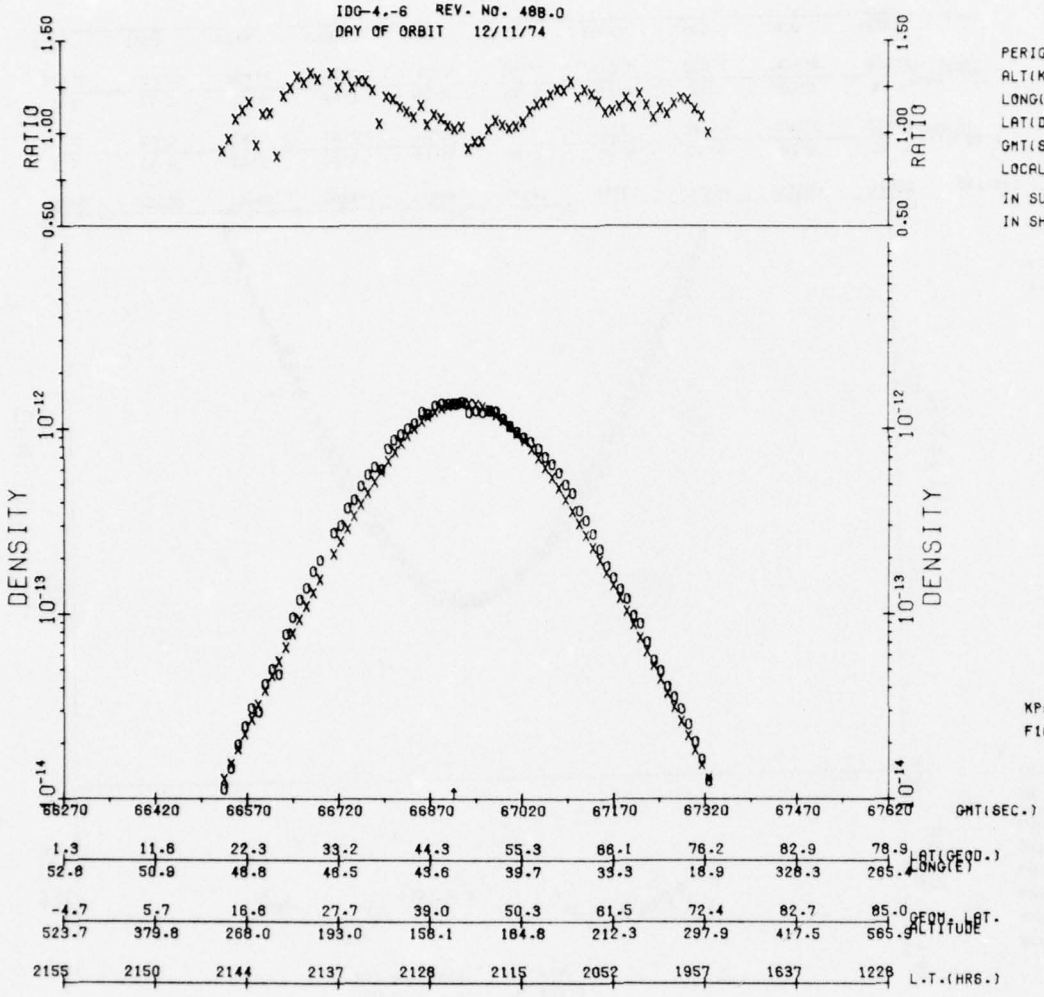
KP=3-
F10.7=72.0



PERIGEE
ALT(N.M.)= 155.83
LONG(E)= 103.28
LAT(DEG.)= 48.40
GMT(SEC.)= 52311.1 (1431M)
LOCAL TIME 2124 (4)

IN SUN FROM 51670. TO 53580.
IN SHADE FROM 53580. TO 53020.

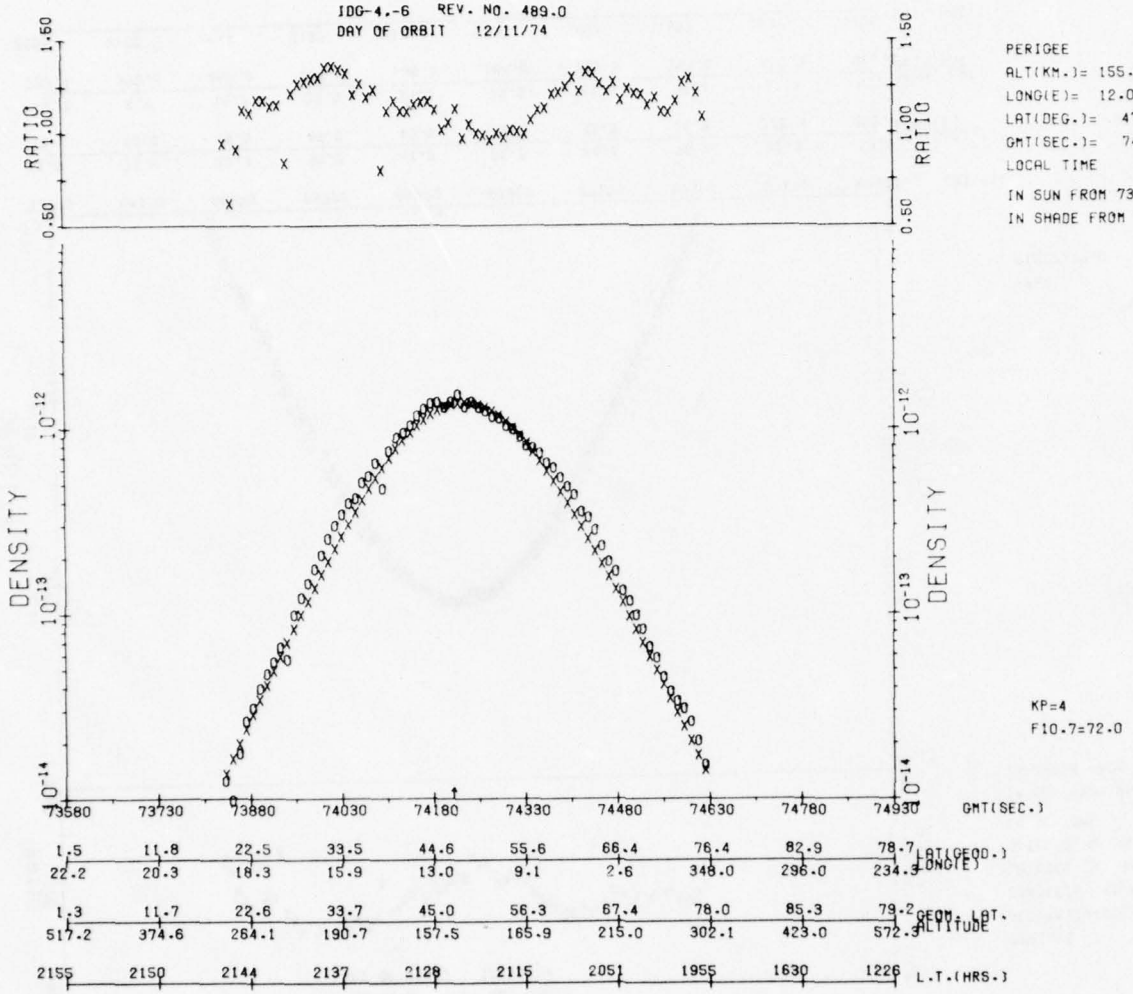
KP=3+
F10.7=72.0



PERIGEE
ALT(KM.)= 155.72
LONG(E)= 42.43
LAT(DEG.)= 48.05
GMT(SEC.)= 66920.8 (1835H)
LOCAL TIME 2125 (H)

IN SUN FROM 66270. TO 68220.
IN SHADE FROM 68220. TO 67620.

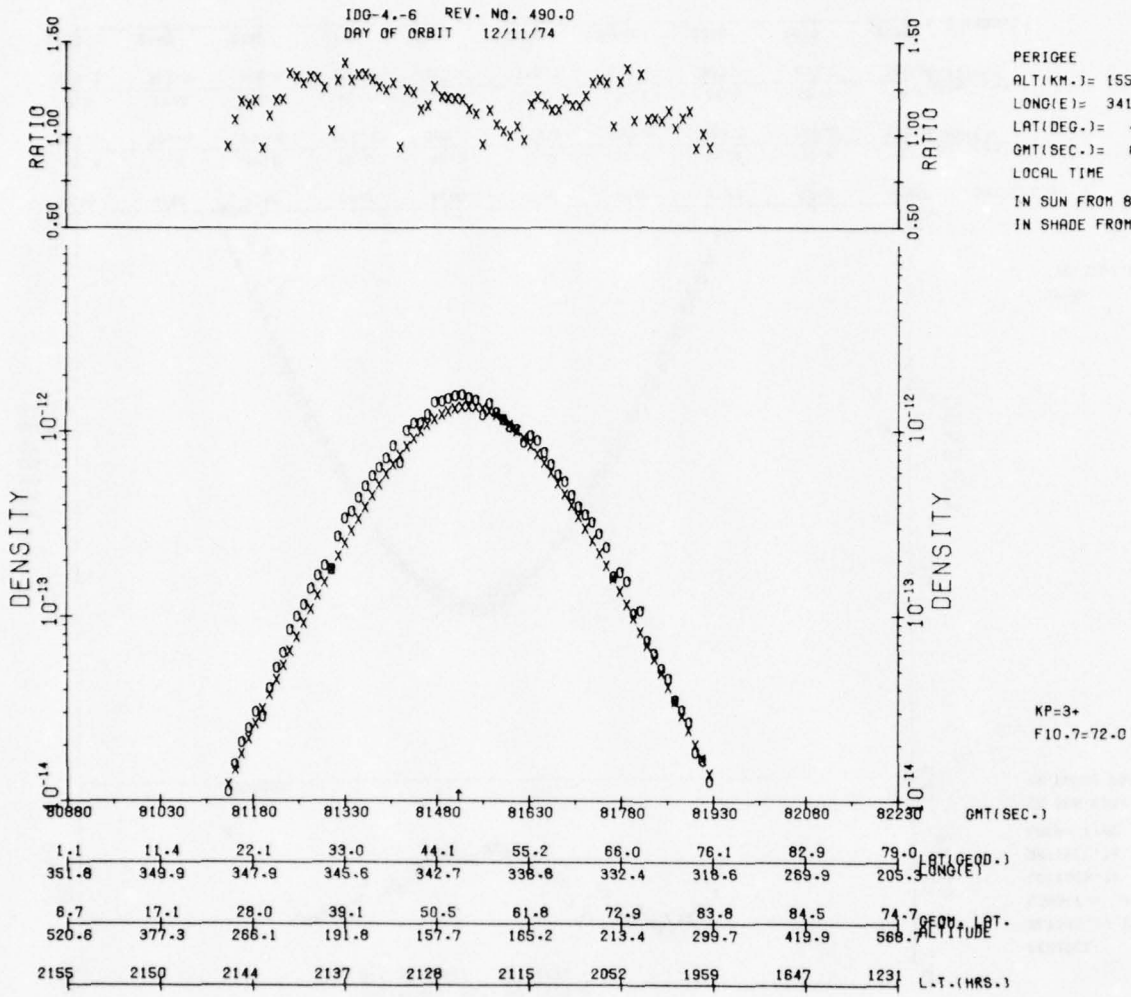
KP=4
F10.7=72.0



PERIGEE
ALT(KM.)= 155.67
LONG(E)= 12.01
LAT(DEG.)= 47.67
GMT(SEC.)= 74224.7 (2037H)
LOCAL TIME 2125 (H)

IN SUN FROM 73580. TO 75480.
IN SHADE FROM 75480. TO 74930.

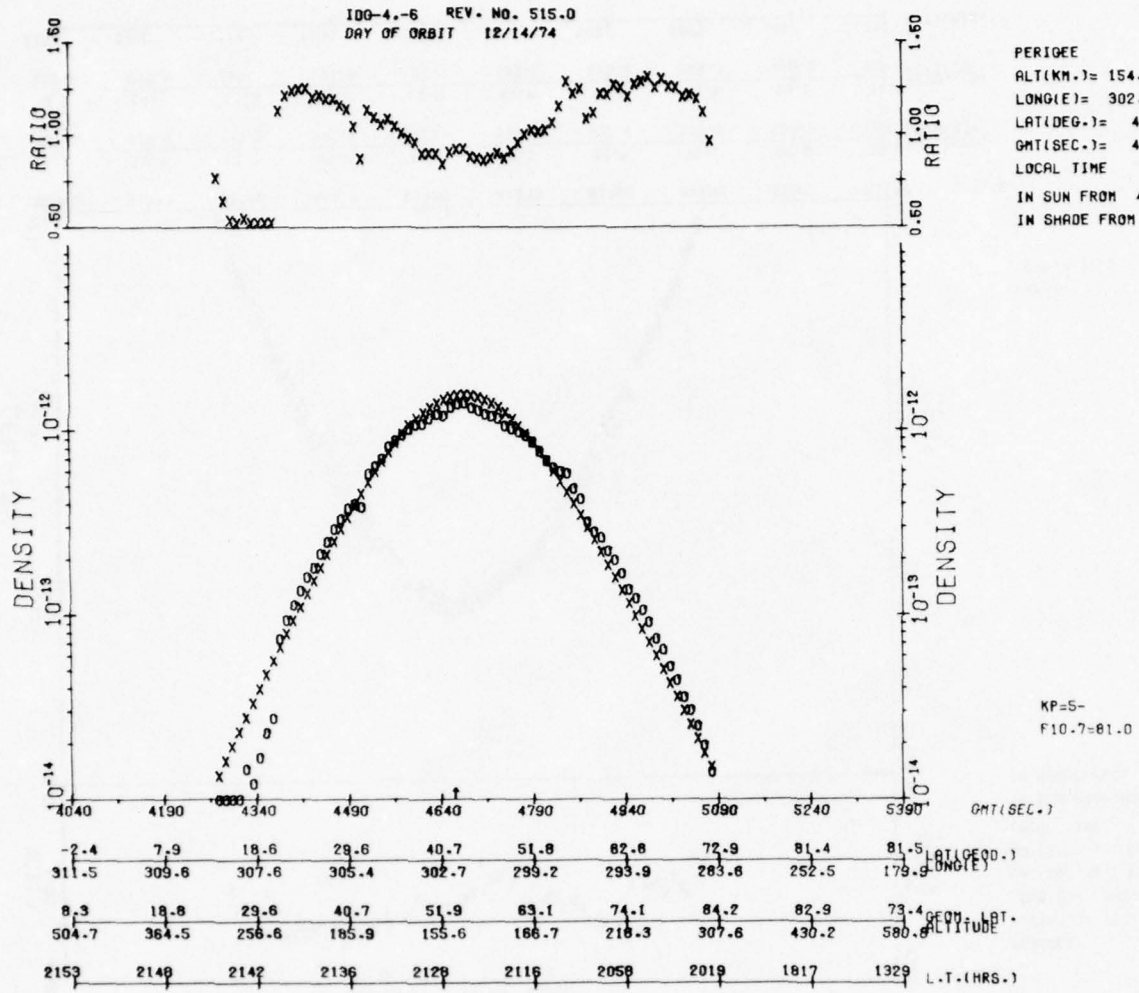
KP=4
F10.7=72.0



PERIGEE
ALT(KM.)= 155.61
LONG(E)= 341.59
LAT(DEG.)= 47.69
GMT(SEC.)= 81528.0 (2238H)
LOCAL TIME 2125 (H)

IN SUN FROM 80880. TO 82800.
IN SHADE FROM 82800. TO 82230.

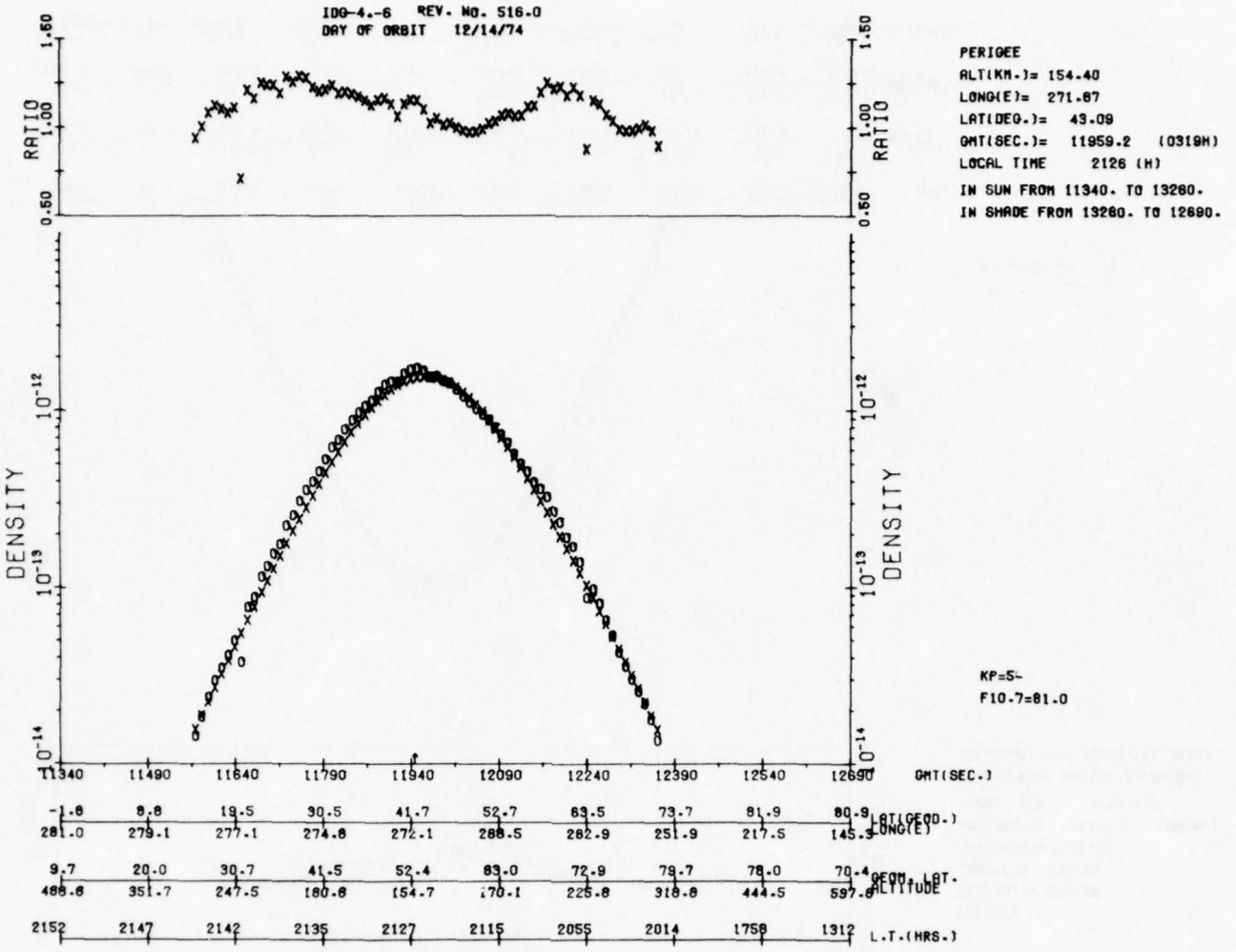
KP=3+
F10.7=72.0



PERIGEE
ALT(KM.)= 154.45
LONG(E)= 302.02
LAT(DEG.)= 43.27
GMT(SEC.)= 4674.7 (0117H)
LOCAL TIME 2125 (H)

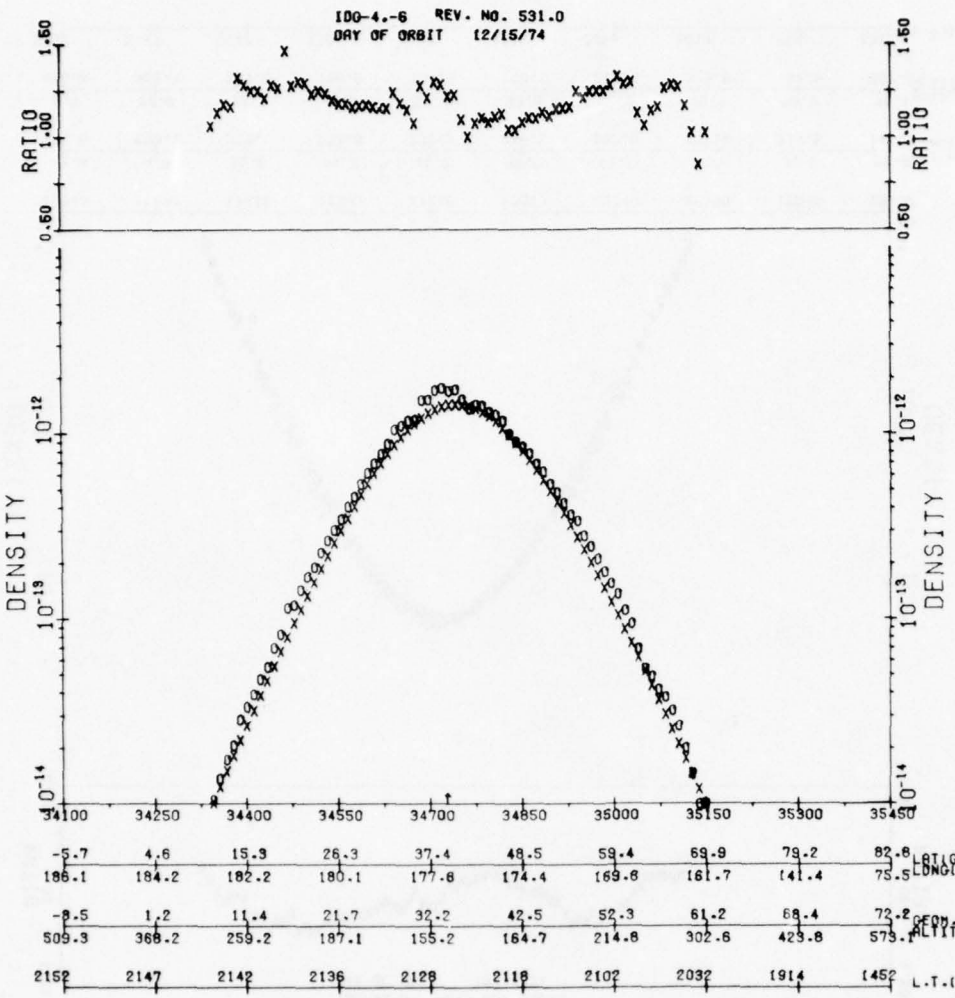
IN SUN FROM 4040. TO 5940.
IN SHADE FROM 5940. TO 5390.

KP=5-
F10.7=81.0



PERIGEE
ALT(KM.)= 154.40
LONG(E)= 271.87
LAT(DEG.)= 43.09
GMT(SEC.)= 11959.2 (0319H)
LOCAL TIME 2126 (H)
IN SUN FROM 11340. TO 13280.
IN SHADE FROM 13280. TO 12690.

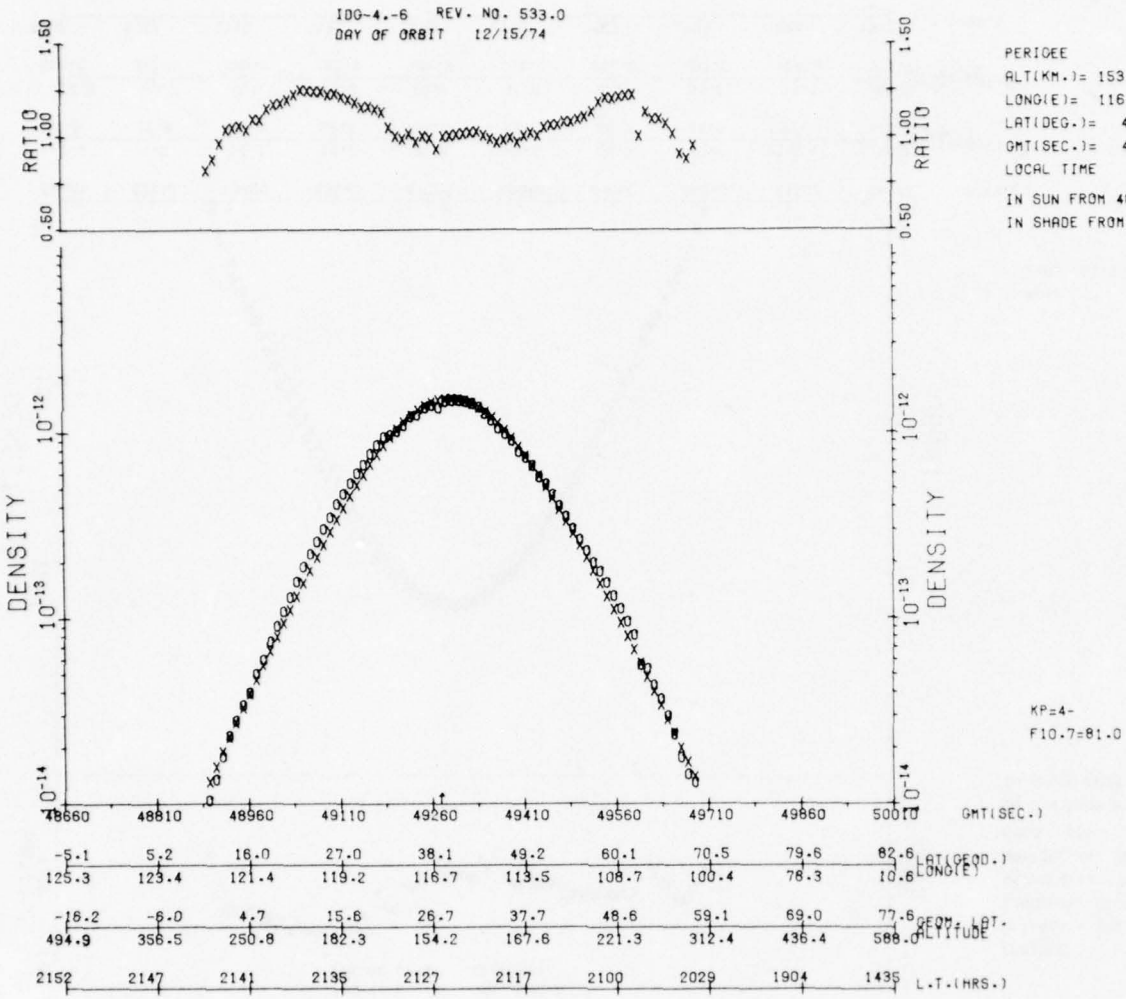
KP=5-
F10.7=81.0



PERIGEE
ALT(KM.)= 153.68
LONG(E)= 176.79
LAT(DEG.)= 40.43
GMT(SEC.)= 34740.5 (0939H)
LOCAL TIME 2126 (H)

IN SUN FROM 34100. TO 36000.
IN SHADE FROM 36000. TO 35450.

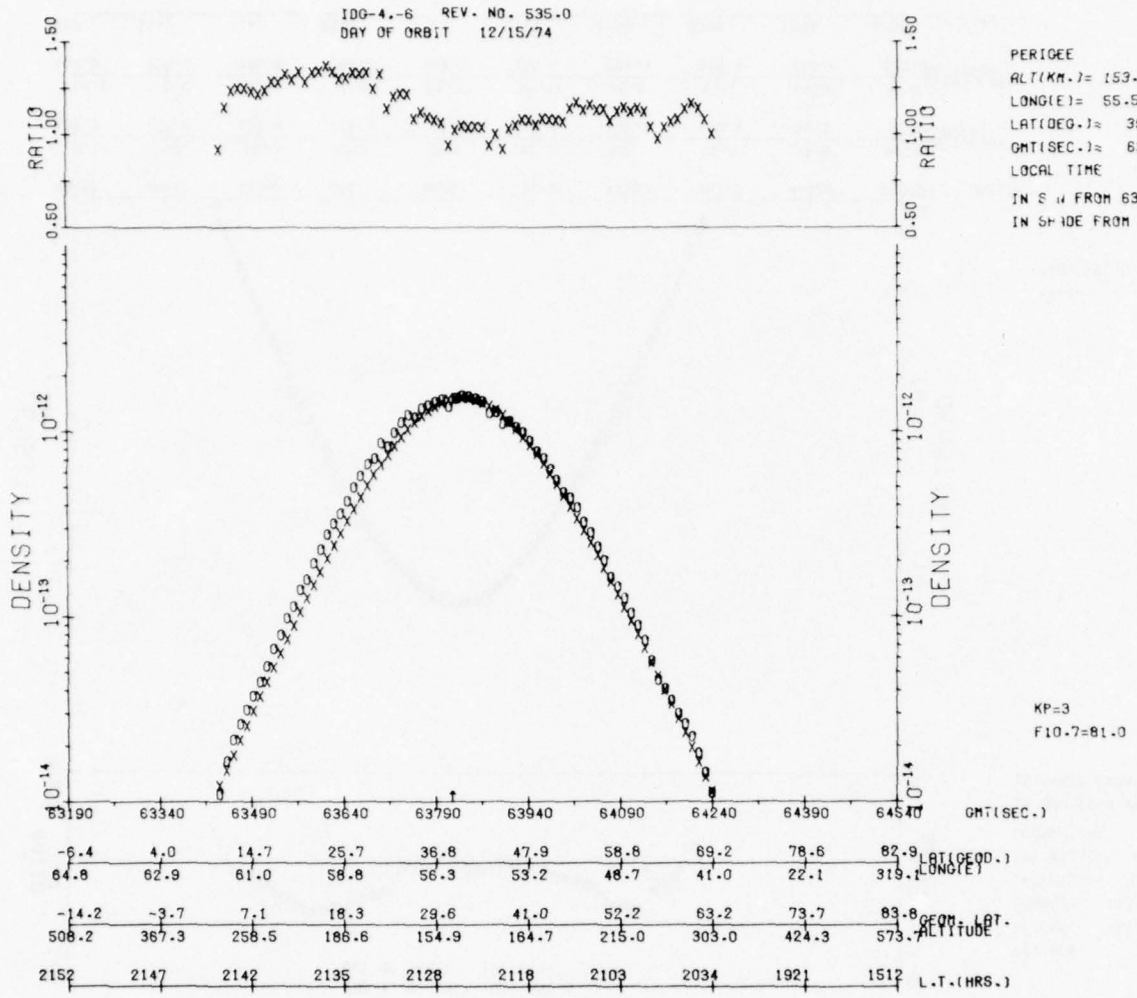
KP=2
F10.7=81.0



PERIGEE
ALT(KM.)= 153.59
LONG(E)= 116.19
LAT(DEG.)= 40.08
GMT(SEC.)= 49286.5 (1341H)
LOCAL TIME 2126 (H)

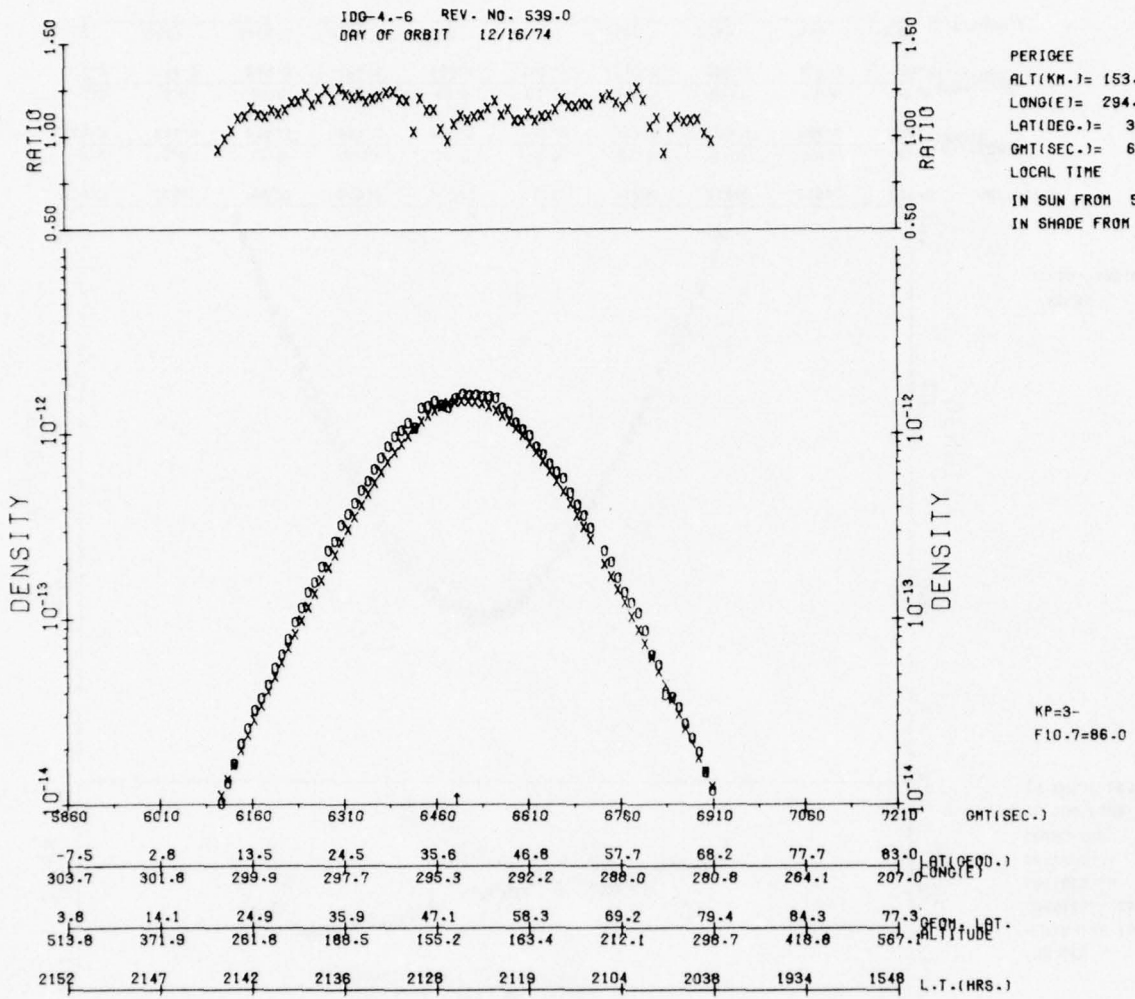
IN SUN FROM 48660. TO 50580.
IN SHADE FROM 50580. TO 50010.

KP=4-
F10.7=81.0



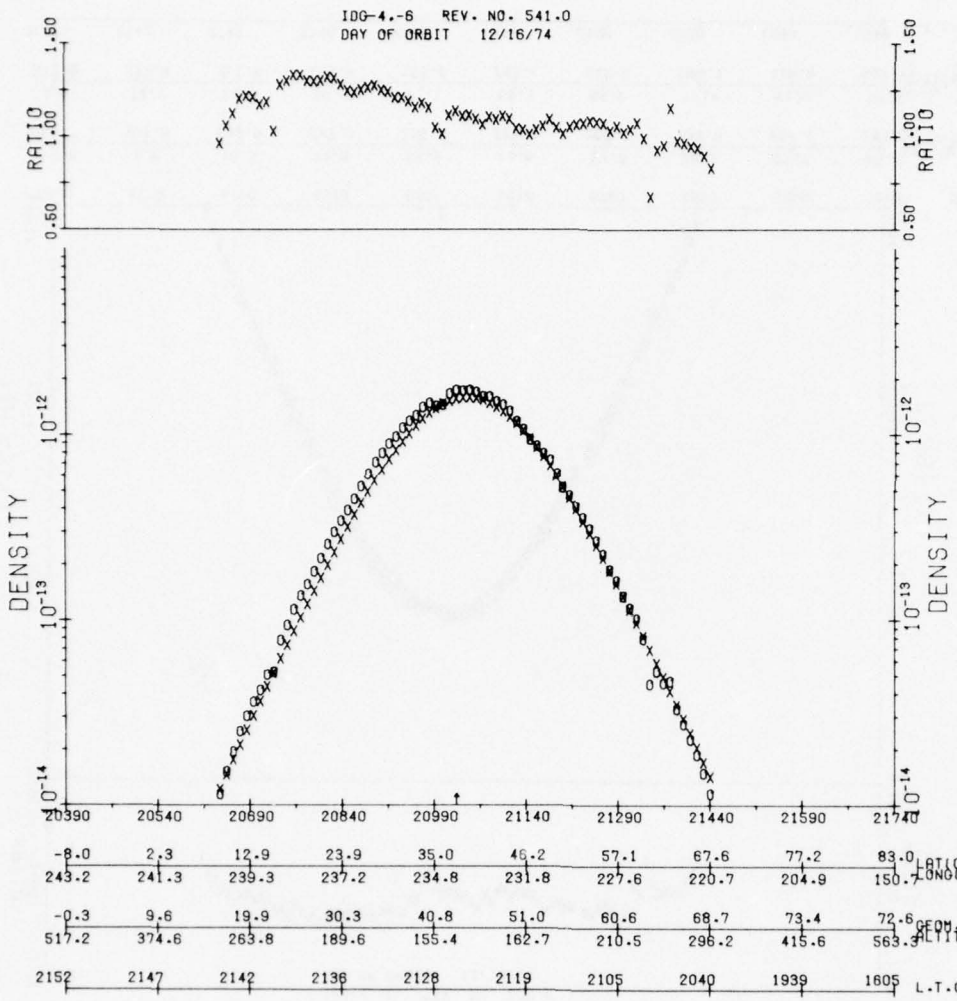
PERIGEE
ALT(KM.)= 153.50
LONG(E)= 55.59
LAT(DEG.)= 39.73
GMT(SEC.)= 63829.7 (1743H)
LOCAL TIME 2126 (H)
IN SUN FROM 63190. TO 65100.
IN SHADE FROM 65100. TO 64540.

KP=3
F10.7=81.0



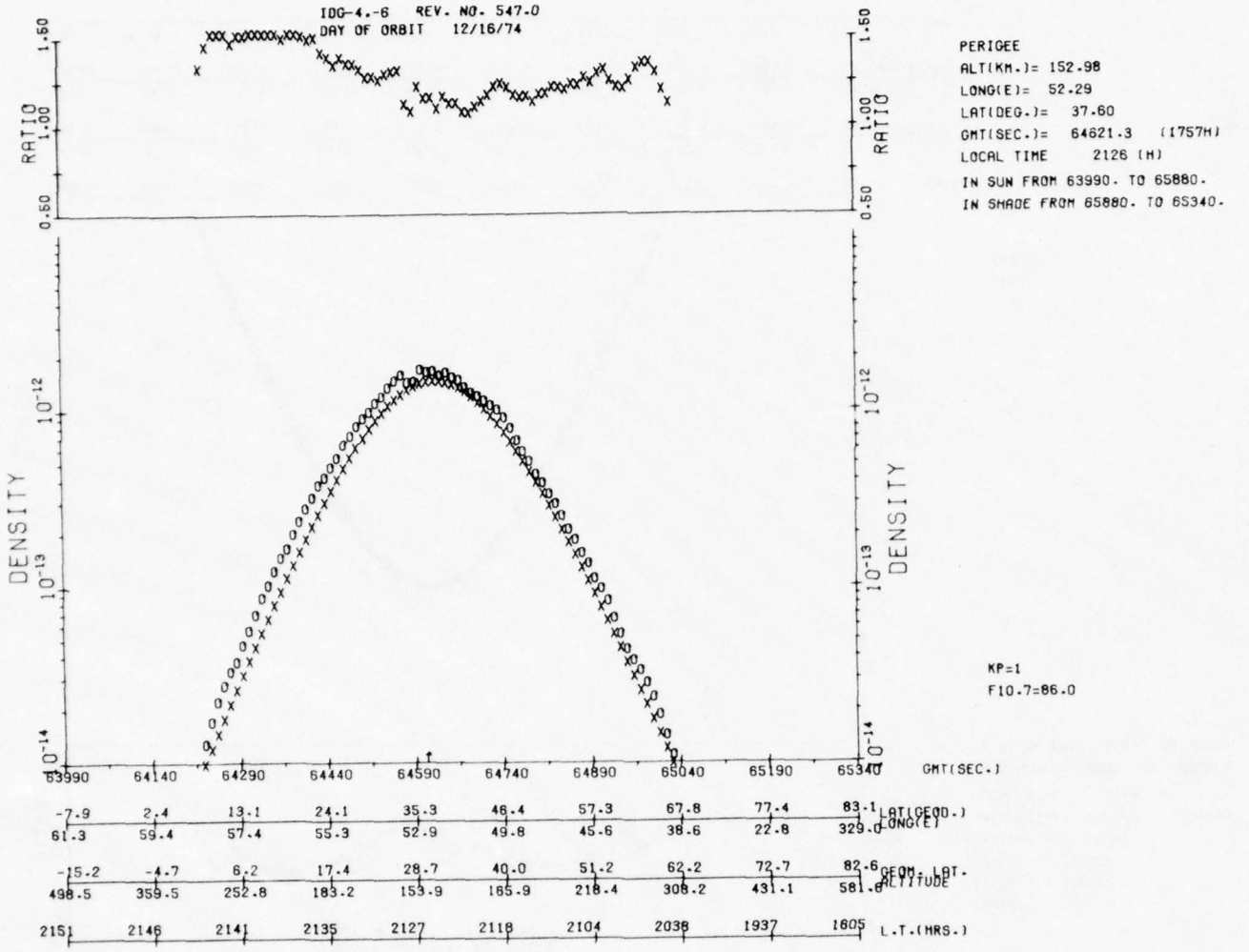
PERIGEE
ALT(KM.)= 153.33
LONG(E)= 294.45
LAT(DEG.)= 39.02
GMT(SEC.)= 6505.4 (0148H)
LOCAL TIME 2126 (H)
IN SUN FROM 5860. TO 7800.
IN SHADE FROM 7800. TO 7210.

KP=3-
F10.7=86.0



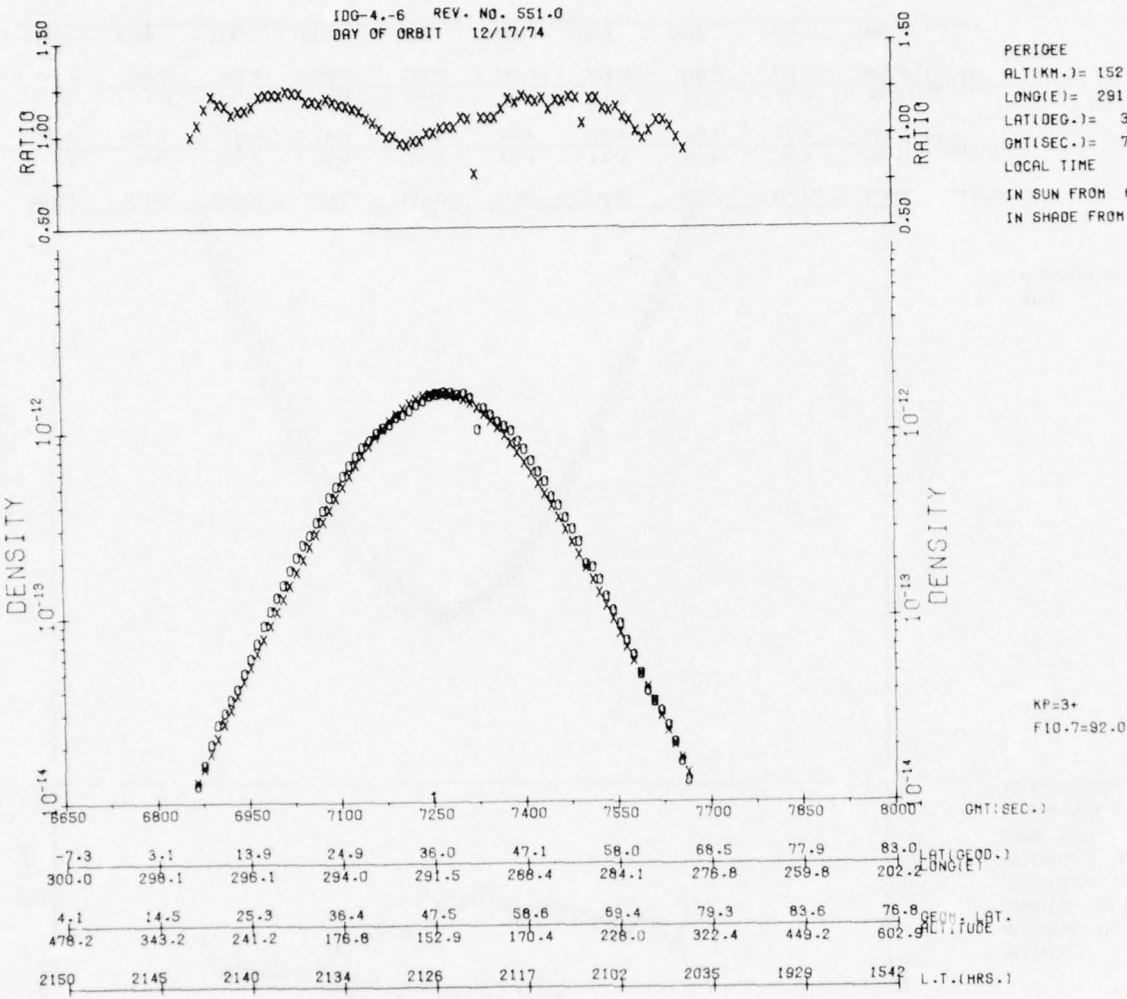
PERIGEE
ALT(KM.)= 153.24
LONG(E)= 233.89
LAT(DEG.)= 38.67
GMT(SEC.)= 21038.9 (0550H)
LOCAL TIME 2126 (H)
IN SUN FROM 20390. TO 22320.
IN SHADE FROM 22320. TO 21740.

KP=3+
F10.7=86.0



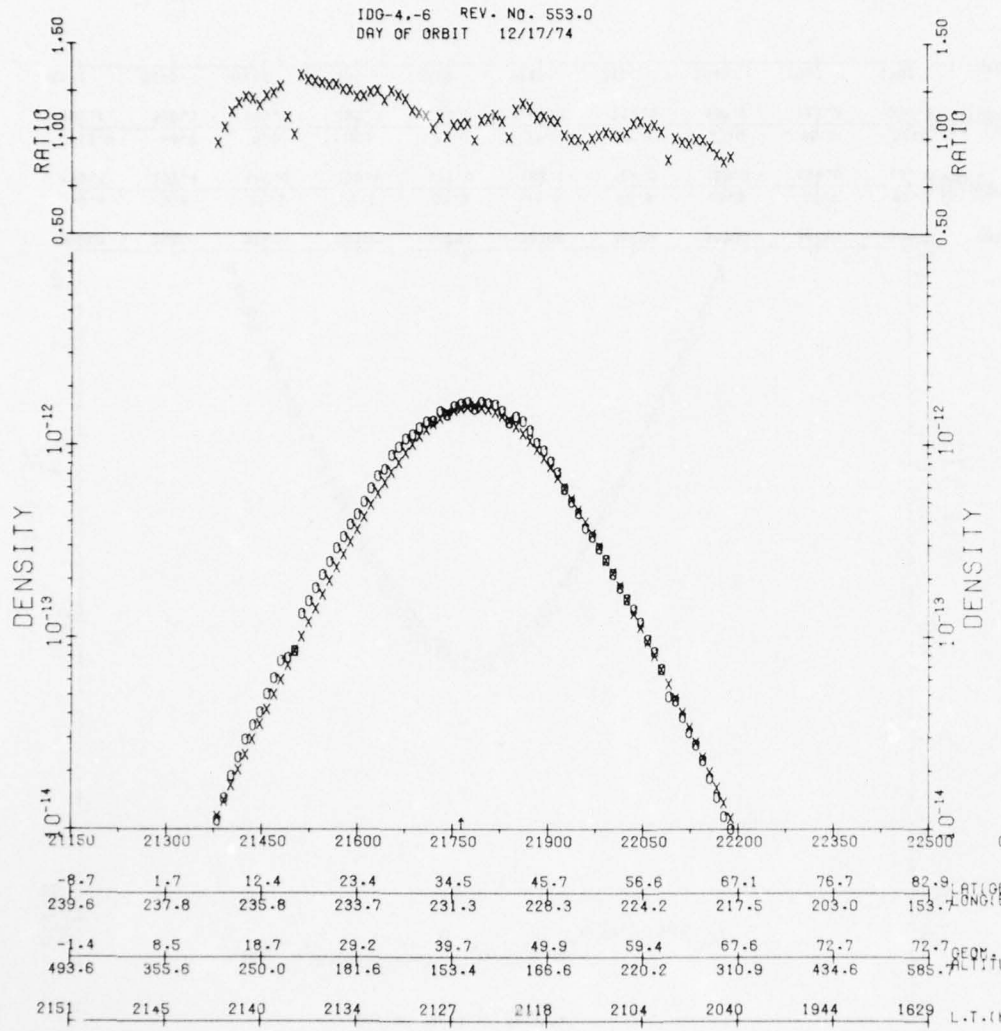
PERIGEE
ALT(KM.)= 152.98
LONG(E)= 52.29
LAT(DEG.)= 37.60
GMT(SEC.)= 64621.3 (1757H)
LOCAL TIME 2126 (H)
IN SUN FROM 63990. TO 65880.
IN SHADE FROM 65880. TO 65340.

KP=1
F10.7=86.0



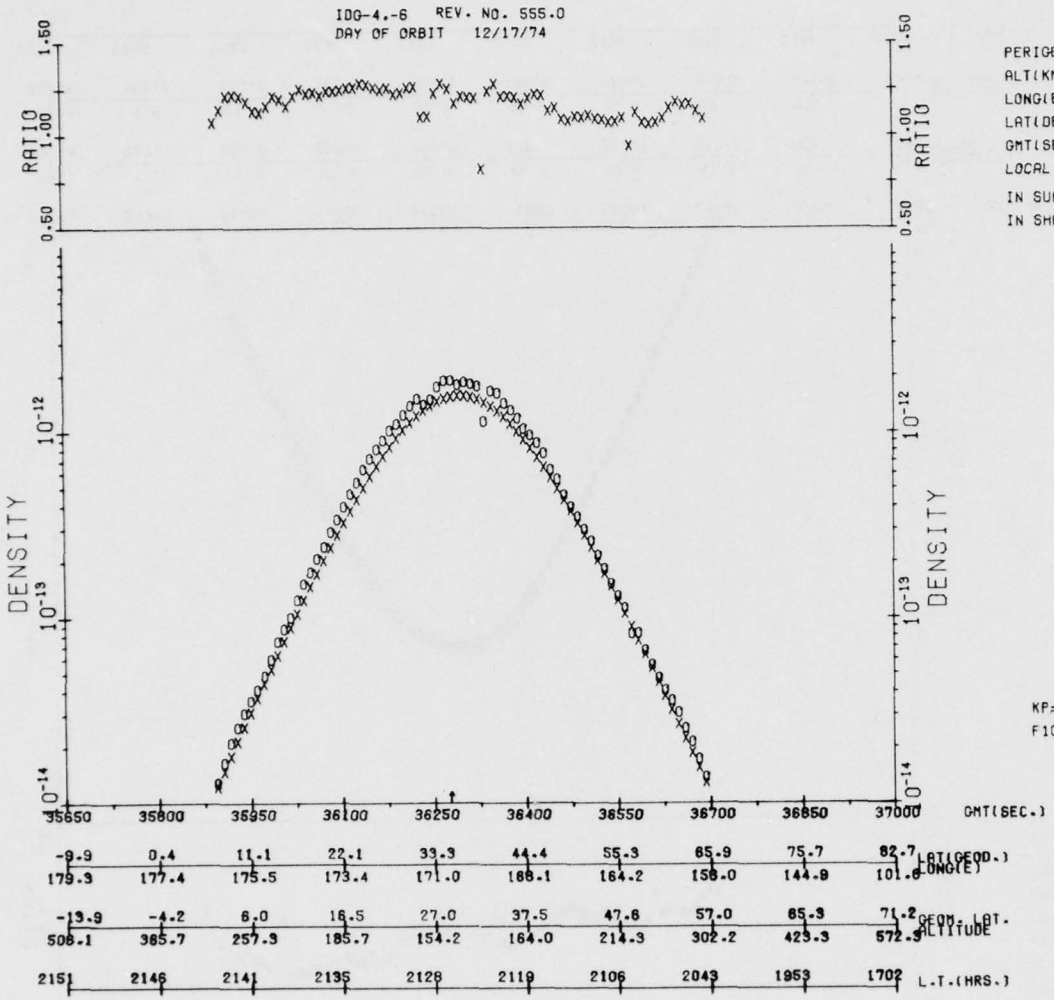
PERIGEE
ALT(KM.)= 152.82
LONG(E)= 291.29
LAT(DEG.)= 36.90
GMT(SEC.)= 7261.5 (0201H)
LOCAL TIME 2126 (H)
IN SUN FROM 6650. TO 8580.
IN SHADE FROM 8580. TO 8000.

KP=3+
F10.7=92.0



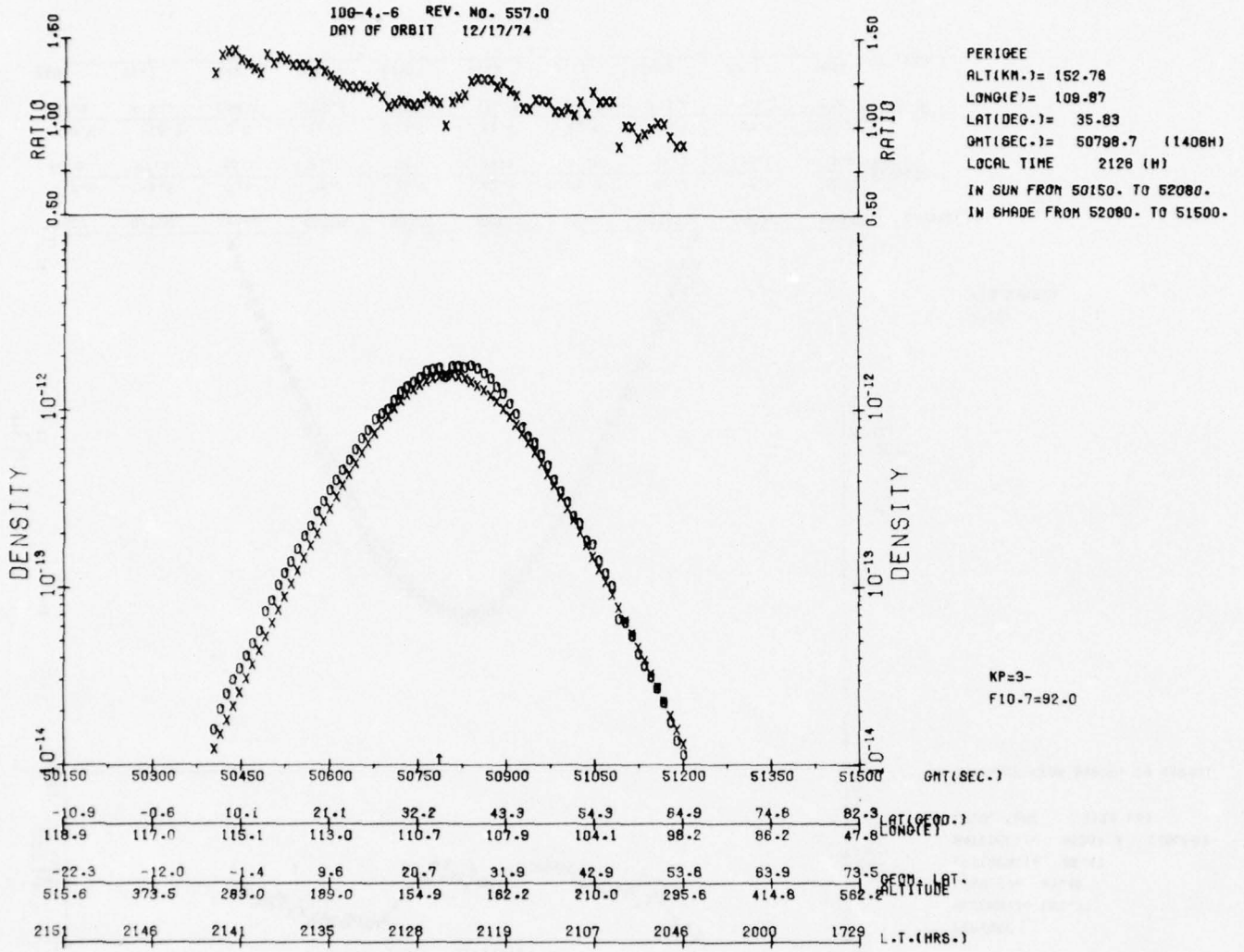
PERIGEE
ALT(KM.)= 152.76
LONG(E)= 230.80
LAT(DEG.)= 36.54
GMT(SEC.)= 21777.0 (0602H)
LOCAL TIME 2126 (H)
IN SUN FROM 21150. TO 23040.
IN SHADE FROM 23040. TO 22500.

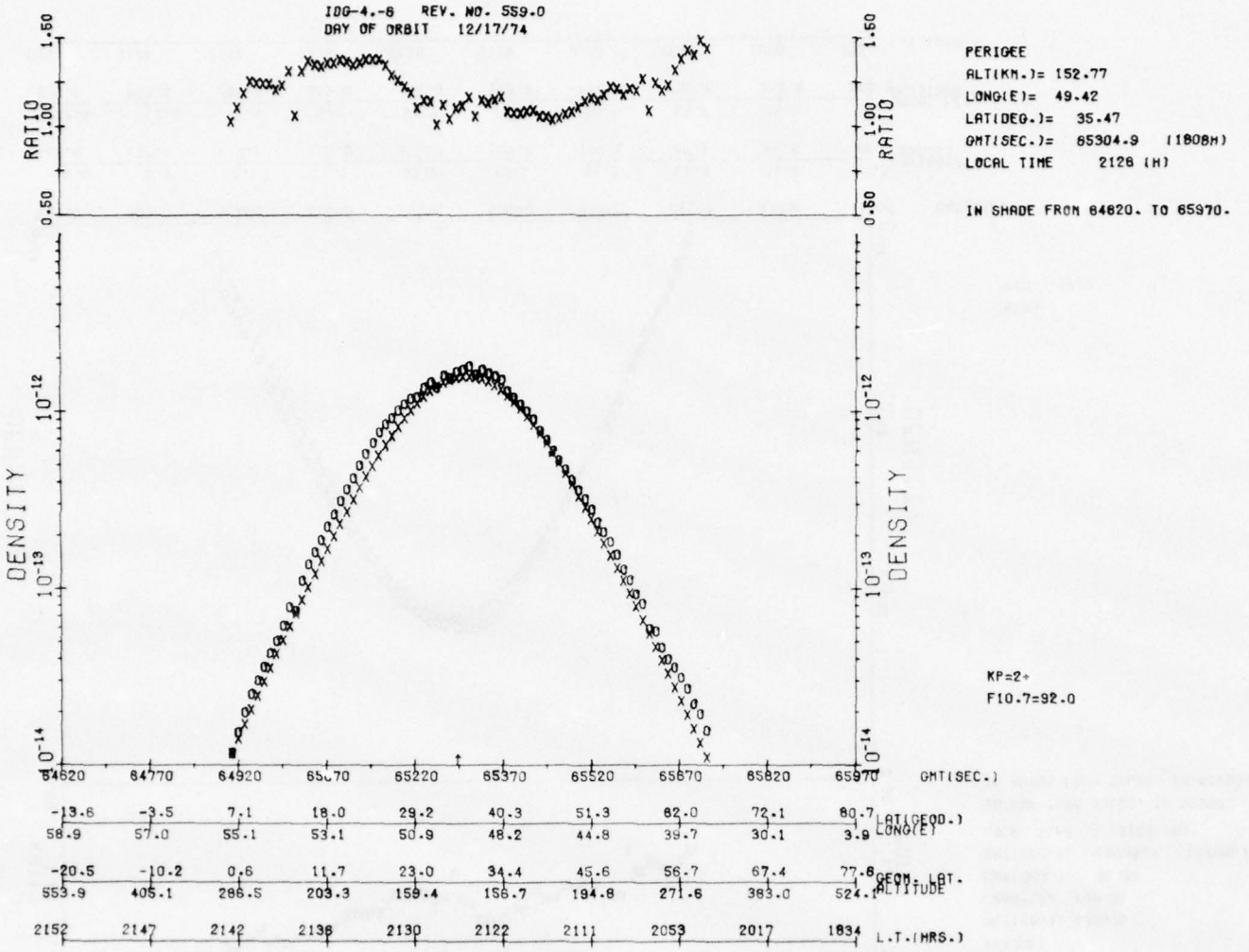
KP=3-
F10.7=92.0



PERIGEE
ALT(KM.)= 152.76
LONG(E)= 170.33
LAT(DEG.)= 36.19
GMT(SEC.)= 36289.3 (1004H)
LOCAL TIME 2126 (H)
IN SUN FROM 35650. TO 37560.
IN SHADE FROM 37560. TO 37000.

KP=3-
F10.7=92.0

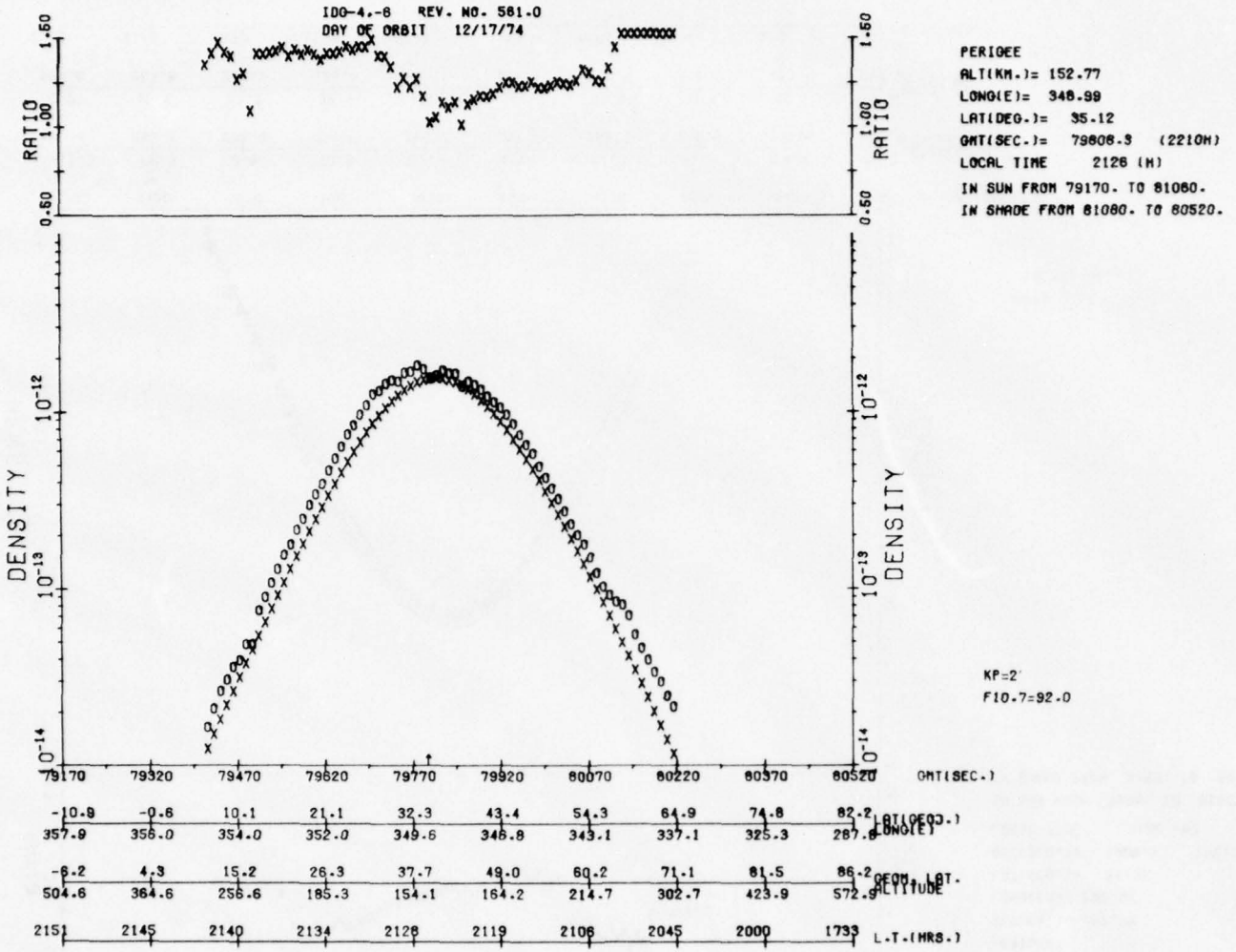

IDG-4.-6 REV. NO. 557.0
DAY OF ORBIT 12/17/74
RATIO
1.50
1.00
0.50
DENSITY
10^-12
10^-13
10^-14
PERIGEE
ALT(KM.)= 152.78
LONG(E)= 109.87
LAT(DEG.)= 35.83
GMT(SEC.)= 50798.7 (1408H)
LOCAL TIME 2126 (H)
IN SUN FROM 50150. TO 52080.
IN SHADE FROM 52080. TO 51500.
KP=3-
F10.7=92.0
50150 50300 50450 50600 50750 50900 51050 51200 51350 51500 GMT(SEC.)
-10.9 -0.6 10.1 21.1 32.2 43.3 54.3 64.9 74.8 82.3 LAT(GEOD.)
118.9 117.0 115.1 113.0 110.7 107.9 104.1 98.2 86.2 47.8 LONG(E)
-22.3 -12.0 -1.4 9.6 20.7 31.9 42.9 53.8 63.9 73.5 GEOM. LAT.
515.6 373.5 283.0 189.0 154.9 162.2 210.0 295.6 414.8 582.2 ALTITUDE
2151 2146 2141 2135 2128 2119 2107 2046 2000 1729 L.T.(HRS.)



PERIGEE
ALT(KM.)= 152.77
LONG(E)= 49.42
LAT(DEG.)= 35.47
GMT(SEC.)= 65304.9 (1808H)
LOCAL TIME 2126 (H)

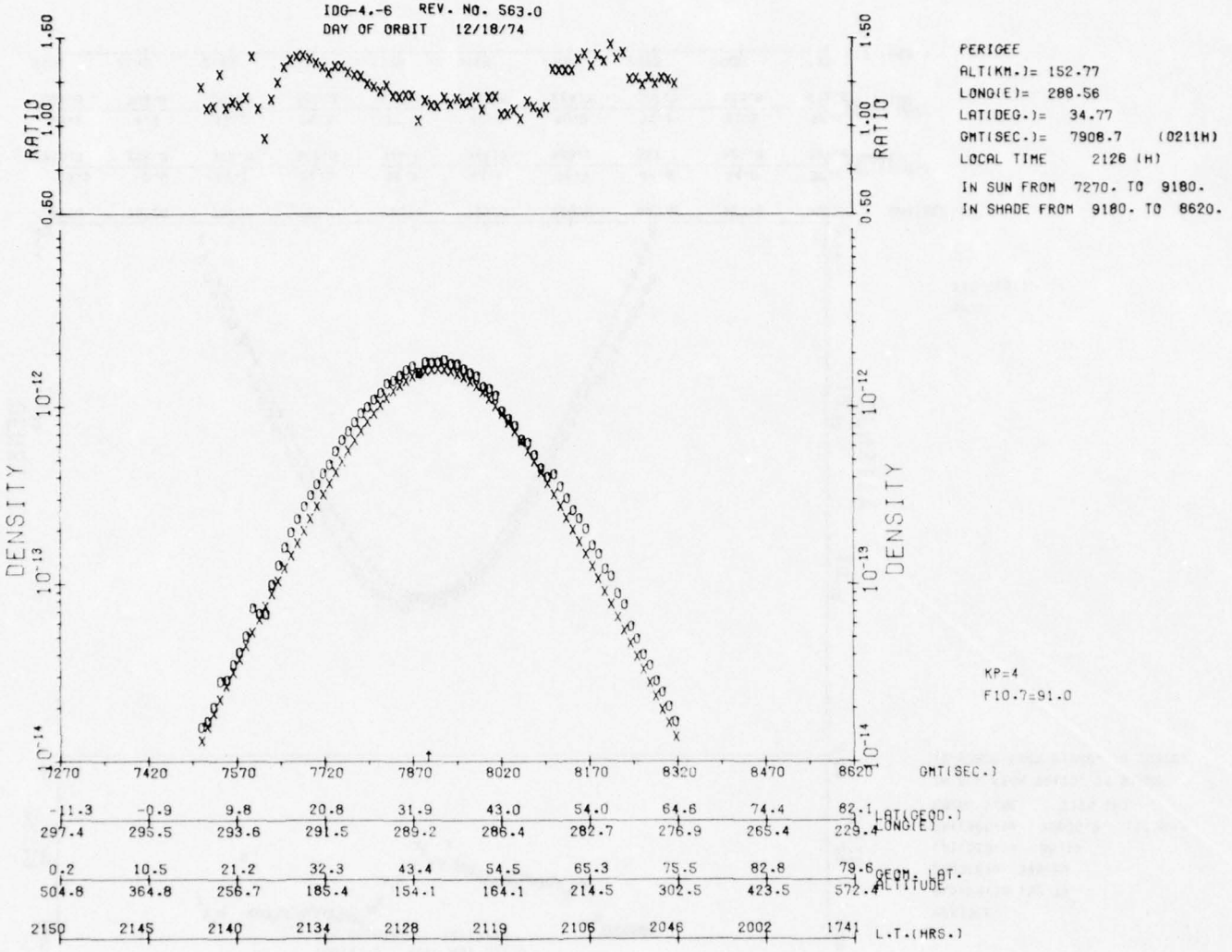
IN SHADE FROM 64620. TO 65970.

KP=2+
F10.7=92.0



PERIGEE
ALT(KM.)= 152.77
LONG(E)= 348.99
LAT(DEG.)= 35.12
GMT(SEC.)= 79808.3 (2210H)
LOCAL TIME 2126 (H)
IN SUN FROM 79170. TO 81060.
IN SHADE FROM 81080. TO 80520.

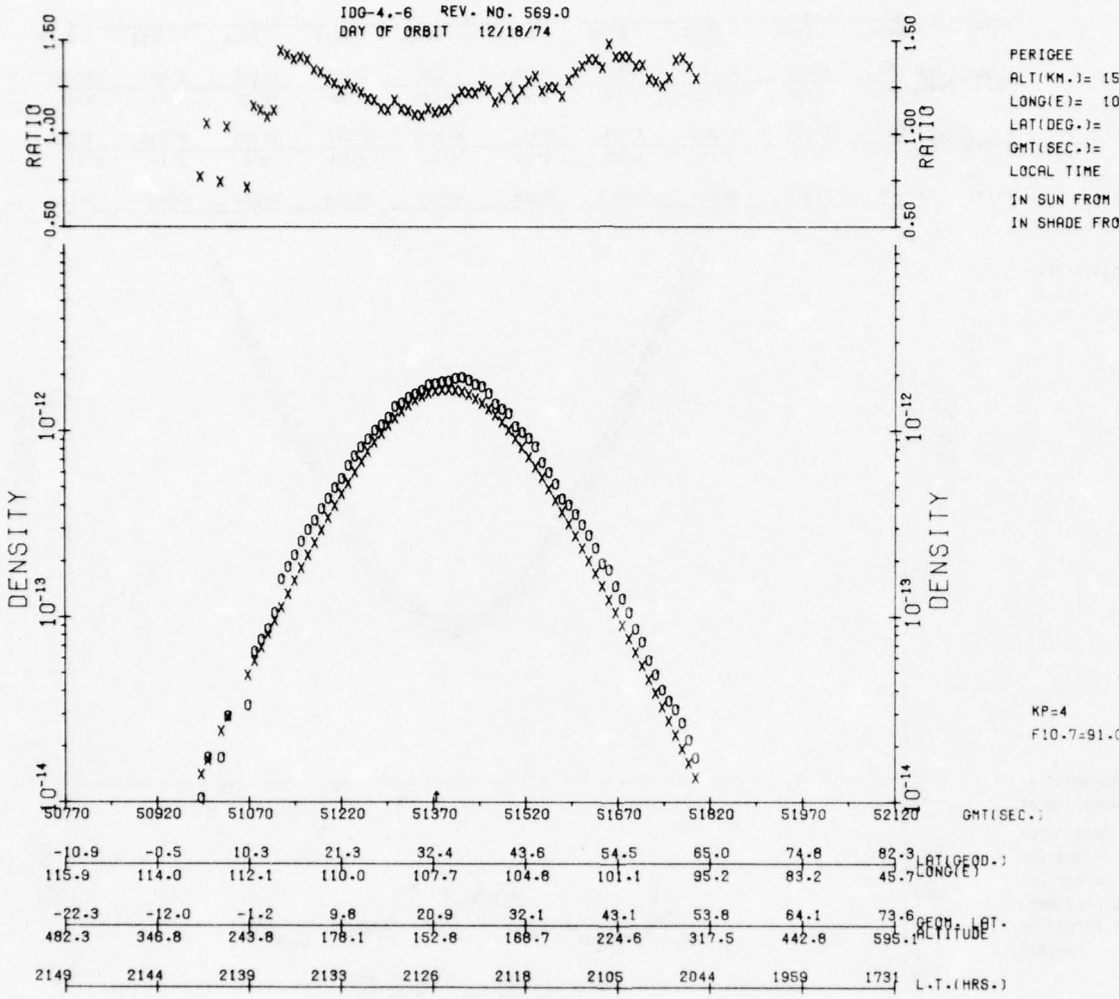
KP=2
F10.7=92.0



PERIGEE
ALT(KM.)= 152.77
LONG(E)= 288.56
LAT(DEG.)= 34.77
GMT(SEC.)= 7908.7 (0211H)
LOCAL TIME 2126 (H)

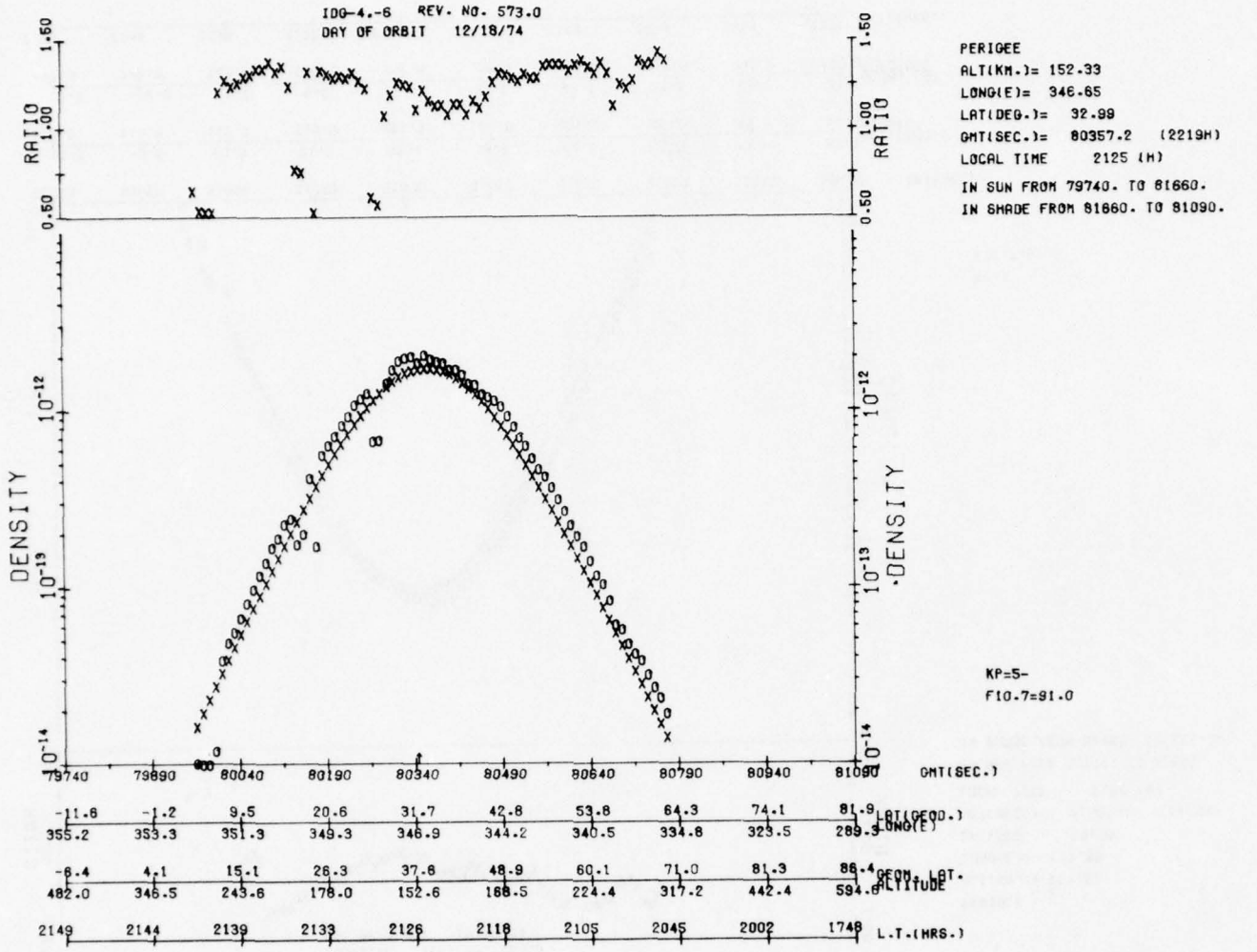
IN SUN FROM 7270. TO 9180.
IN SHADE FROM 9180. TO 8620.

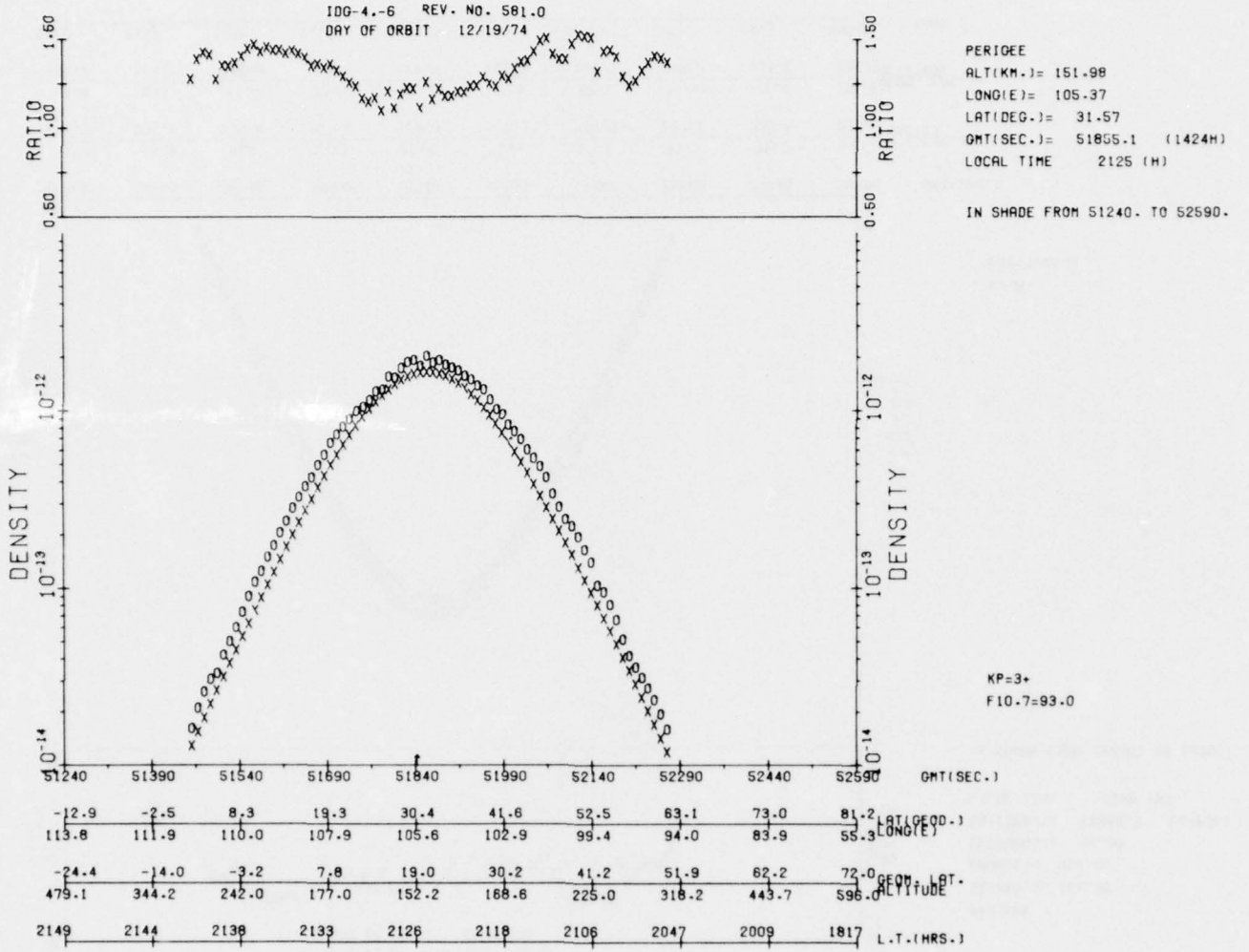
KP=4
F10.7=91.0



PERIGEE
ALT(KM.)= 152.51
LONG(E)= 107.38
LAT(DEG.)= 33.70
GMT(SEC.)= 51307.1 (1416H)
LOCAL TIME 2125 (H)
IN SUN FROM 50770. TO 52680.
IN SHADE FROM 52680. TO 52120.

KP=4
F10.7=91.0

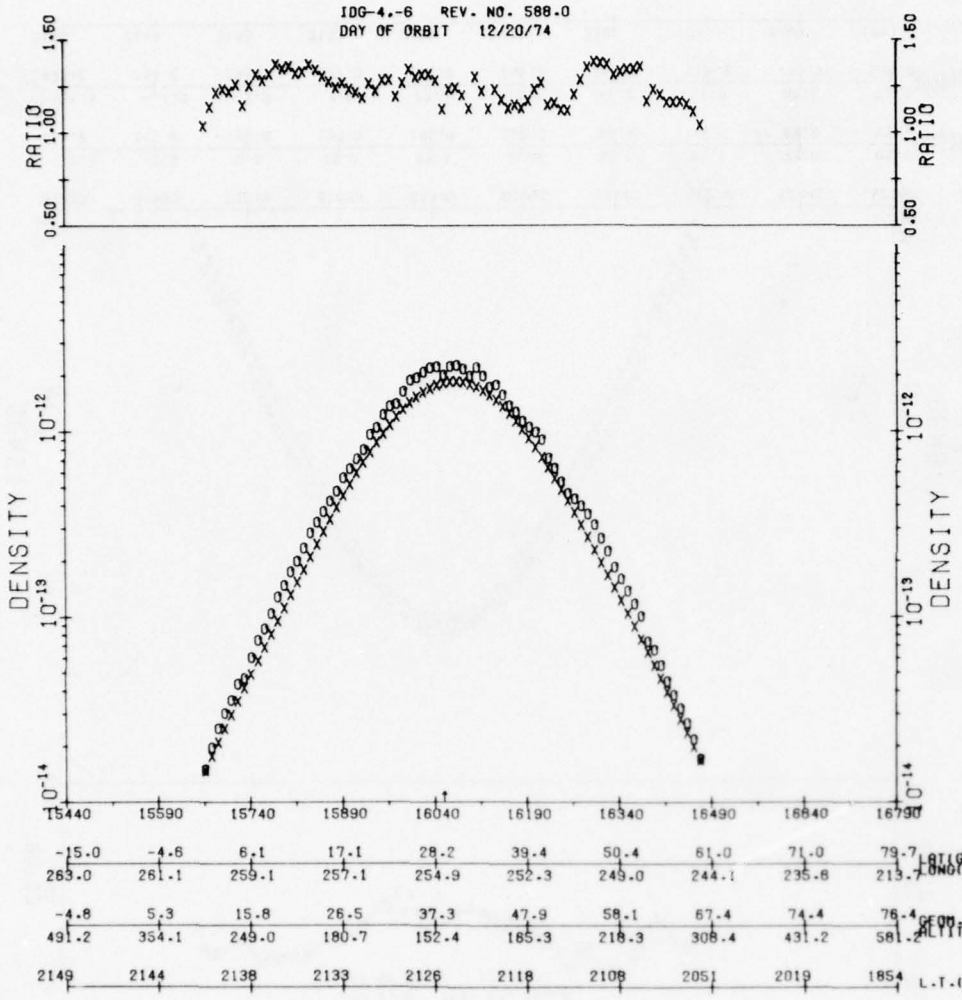

IDG-4.-6 REV. NO. 573.0
DAY OF ORBIT 12/18/74
RATIO
1.50
1.00
0.50
DENSITY
10^{-12}
10^{-13}
10^{-14}
PERIGEE
ALT(KM.)= 152.33
LONG(E)= 346.65
LAT(DEG.)= 32.99
GMT(SEC.)= 80357.2 (2219H)
LOCAL TIME 2125 (H)
IN SUN FROM 79740. TO 81660.
IN SHADE FROM 81660. TO 81090.
KP=5-
F10.7=91.0
79740 79890 80040 80190 80340 80490 80640 80790 80940 81090 GMT(SEC.)
-11.6 -1.2 9.5 20.6 31.7 42.8 53.8 64.3 74.1 81.9 LAT(GEOD.)
355.2 353.3 351.3 349.3 346.9 344.2 340.5 334.8 323.5 289.3 LONG(E)
-6.4 4.1 15.1 28.3 37.8 48.9 60.1 71.0 81.3 86.4 GEOM. LAT.
482.0 346.5 243.6 178.0 152.6 168.5 224.4 317.2 442.4 594.6 ALTITUDE
2149 2144 2139 2133 2126 2118 2105 2045 2002 1748 L.T.(HRS.)



PERIGEE
ALT(KM.)= 151.98
LONG(E)= 105.37
LAT(DEG.)= 31.57
GMT(SEC.)= 51855.1 (1424H)
LOCAL TIME 2125 (H)

IN SHADE FROM 51240. TO 52590.

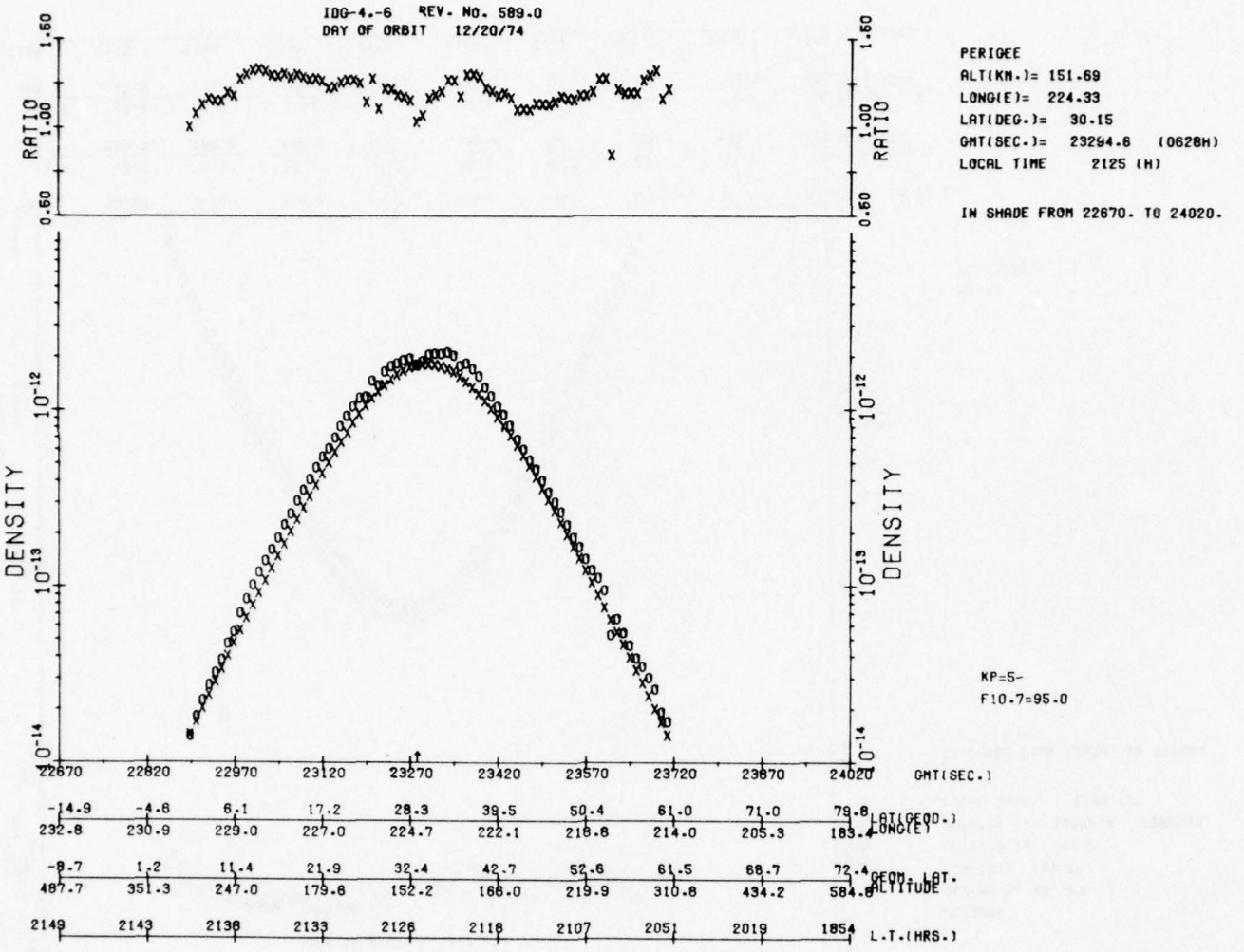
KP=3+
F10.7=93.0

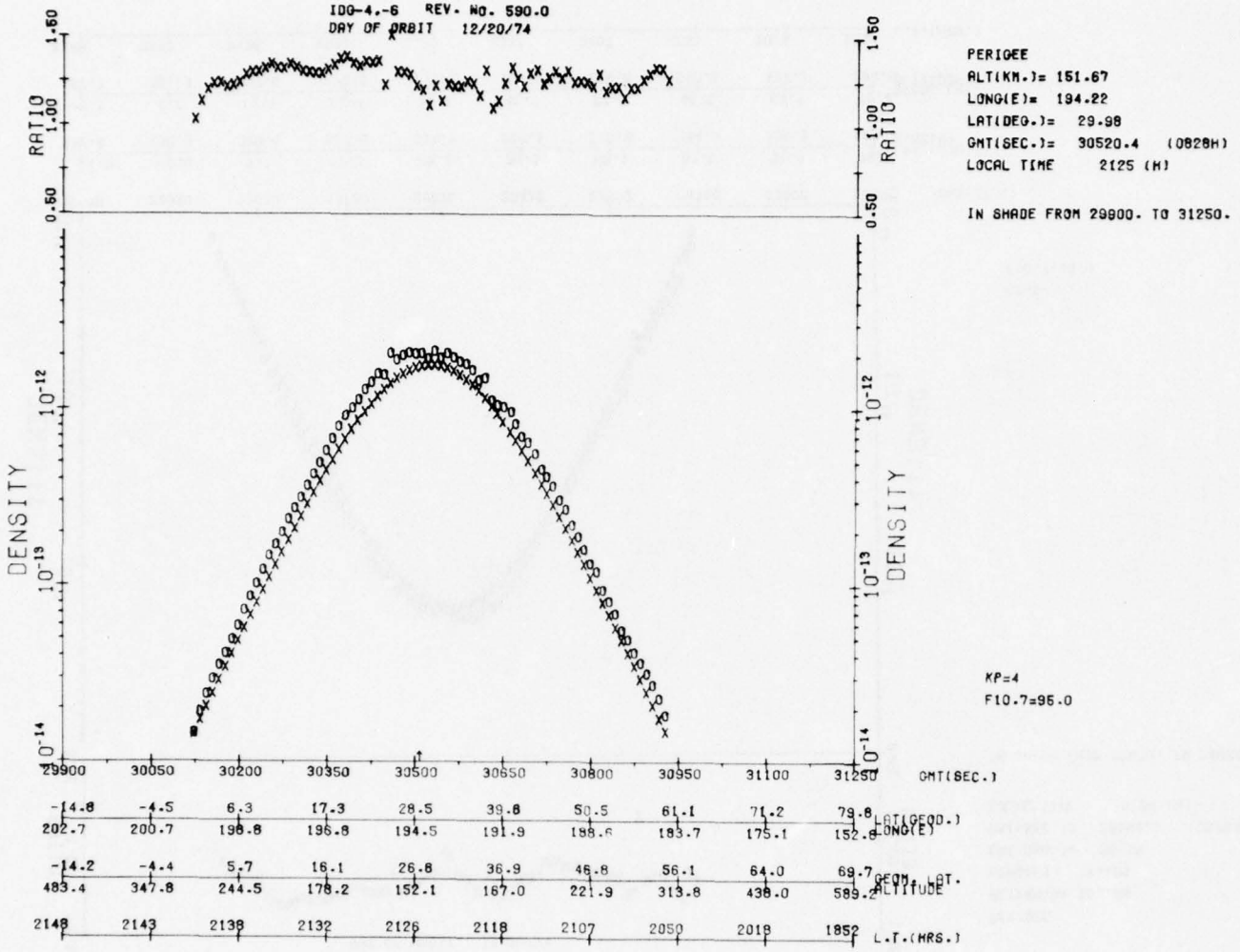


PERIGEE
ALT(KM.)= 151.70
LONG(E)= 254.45
LAT(DEG.)= 30.33
GMT(SEC.)= 16068.0 (0427H)
LOCAL TIME 2125 (H)

IN SHADE FROM 15440. TO 16790.

KP=5-
F10.7=95.0

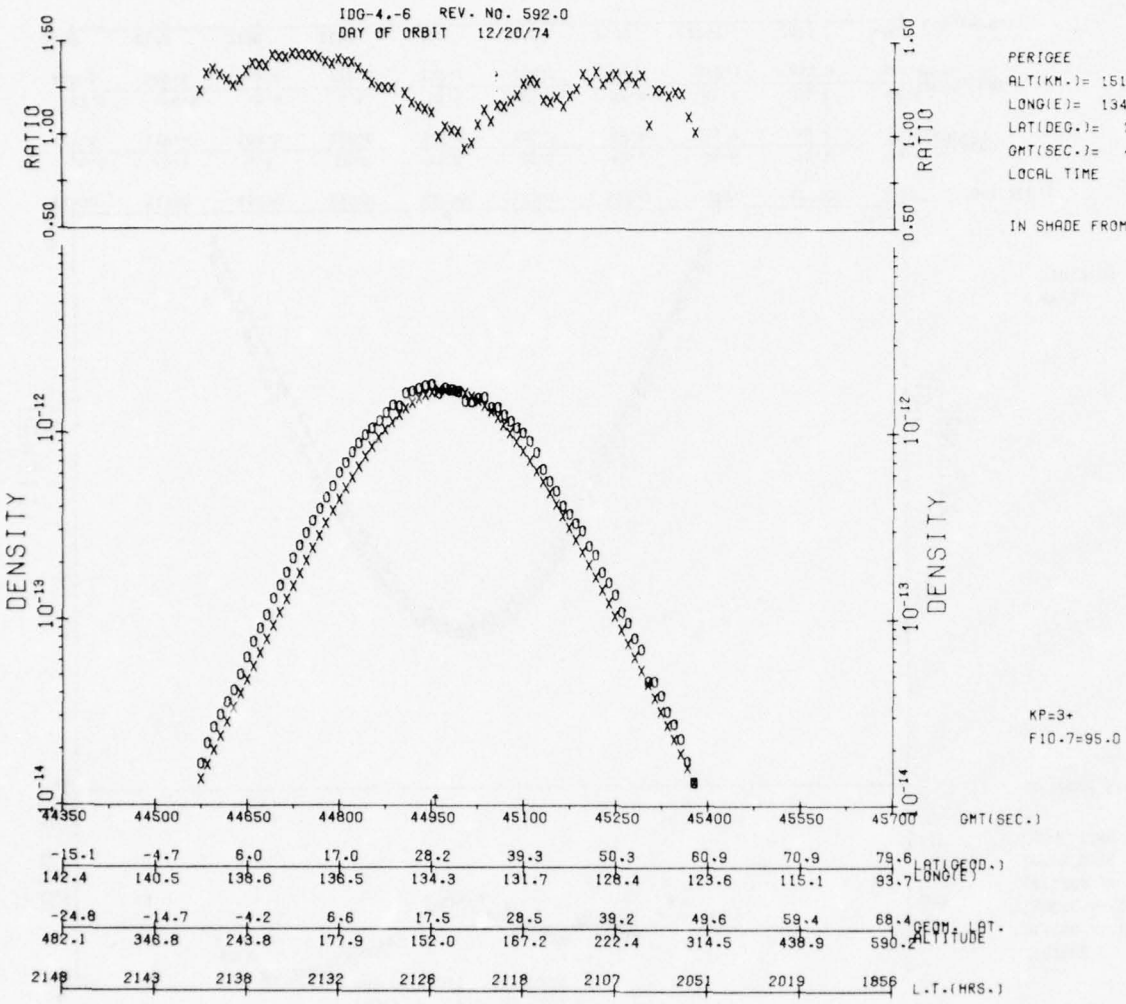

IDG-4.-6 REV. NO. 589.0
DAY OF ORBIT 12/20/74
RATIO
1.60
1.00
0.60
DENSITY
10^{-12}
10^{-13}
10^{-14}
PERIGEE
ALT(KM.)= 151.69
LONG(E)= 224.33
LAT(DEG.)= 30.15
GMT(SEC.)= 23294.6 (0628H)
LOCAL TIME 2125 (H)
IN SHADE FROM 22670. TO 24020.
KP=5-
F10.7=95.0
22670 22820 22970 23120 23270 23420 23570 23720 23870 24020 GMT(SEC.)
-14.9 -4.8 6.1 17.2 28.3 39.5 50.4 61.0 71.0 79.8 LAT(GEOD.)
232.8 230.9 229.0 227.0 224.7 222.1 218.8 214.0 205.3 183.4 LONG(E)
-8.7 1.2 11.4 21.9 32.4 42.7 52.6 61.5 68.7 72.4 GEOM. LAT.
487.7 351.3 247.0 179.8 152.2 166.0 219.9 310.8 434.2 584.8 ALTITUDE
2149 2143 2138 2133 2128 2118 2107 2051 2019 1854 L.T.(HRS.)



PERIGEE
ALT(KM.)= 151.67
LONG(E)= 194.22
LAT(DEG.)= 29.98
GMT(SEC.)= 30520.4 (0828H)
LOCAL TIME 2125 (H)

IN SHADE FROM 29800. TO 31250.

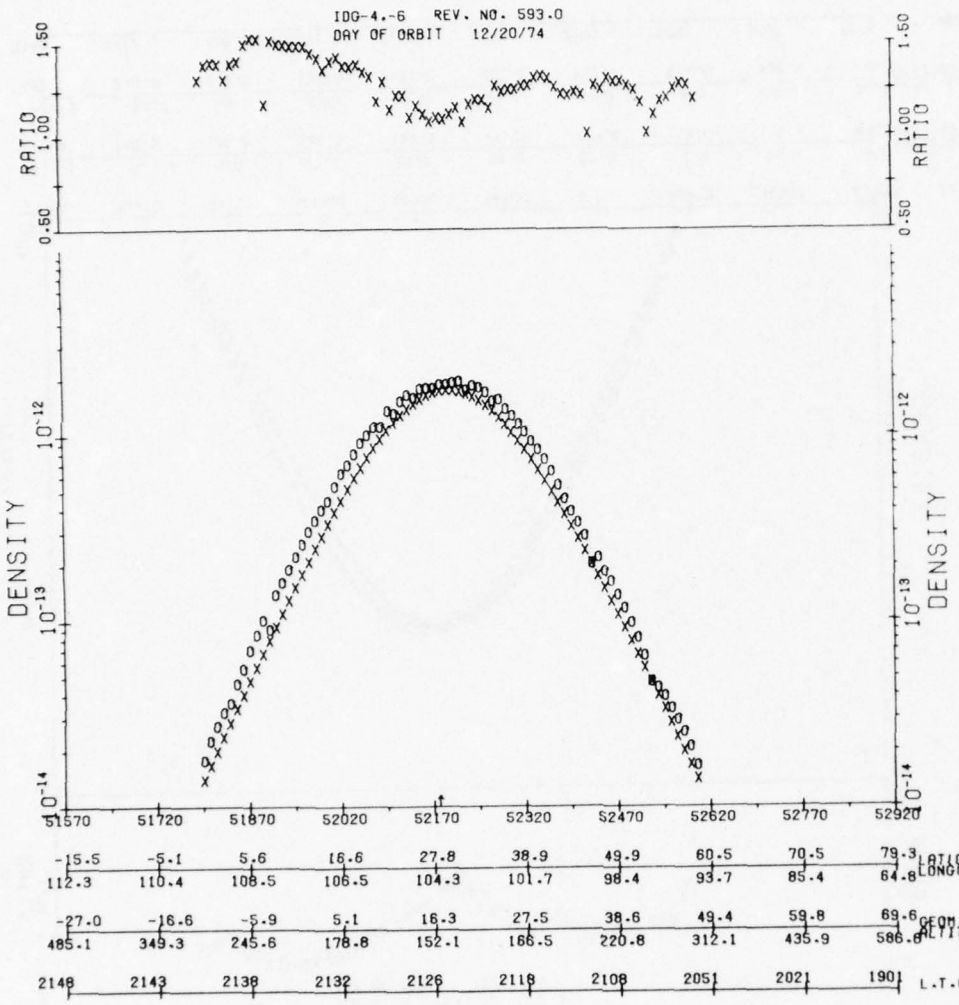
KP=4
F10.7=95.0



PERIGEE
ALT(KM.)= 151.64
LONG(E)= 134.00
LAT(DEG.)= 29.62
GMT(SEC.)= 44969.3 (1229H)
LOCAL TIME 2125 (H)

IN SHADE FROM 44350. TO 45700.

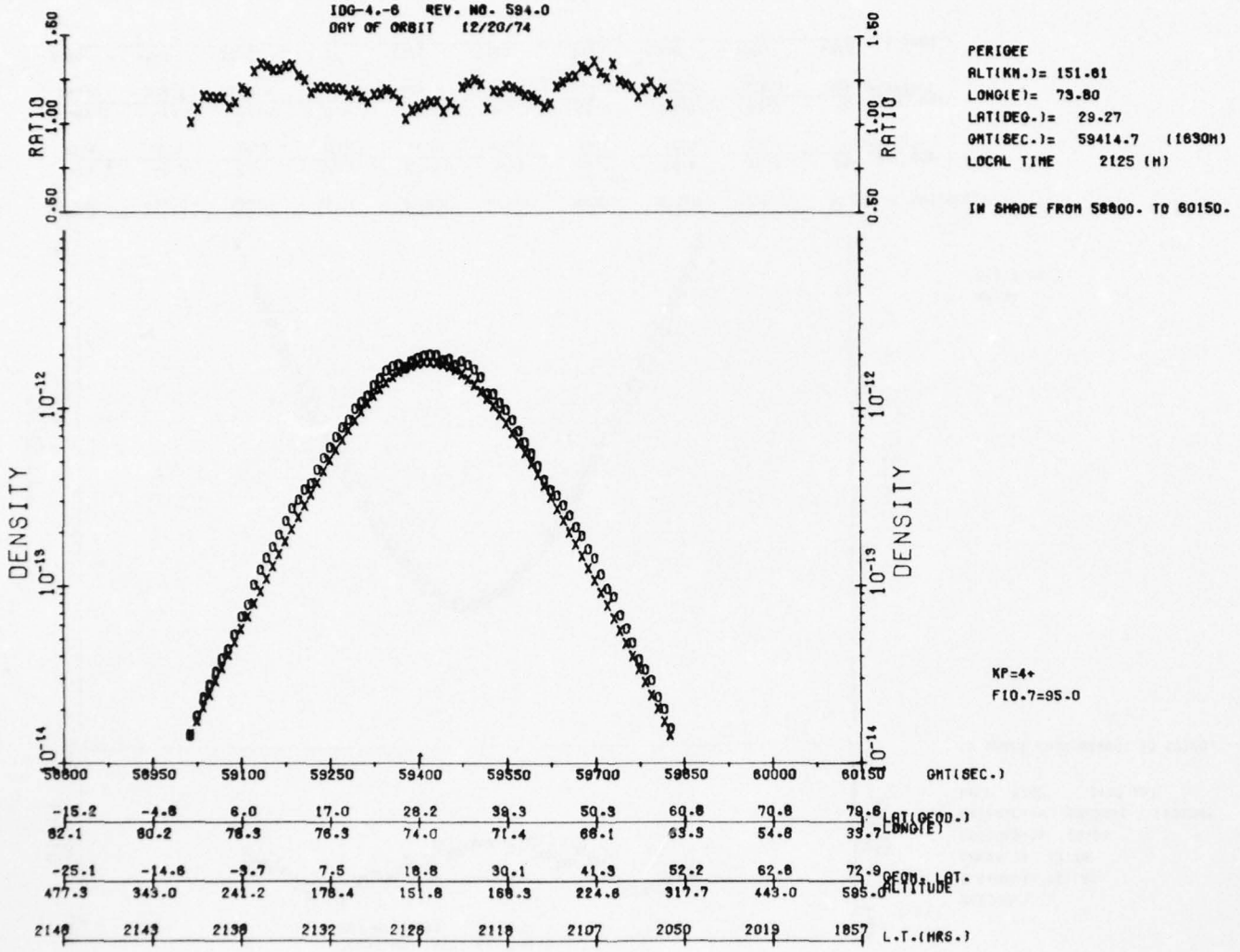
KP=3+
F10.7=95.0



PERIGEE
ALT(KM.)= 151.62
LONG(E)= 103.90
LAT(DEG.)= 29.44
GMT(SEC.)= 52192.5 (1429H)
LOCAL TIME 2125 (H)

IN SHADE FROM 51570. TO 52920.

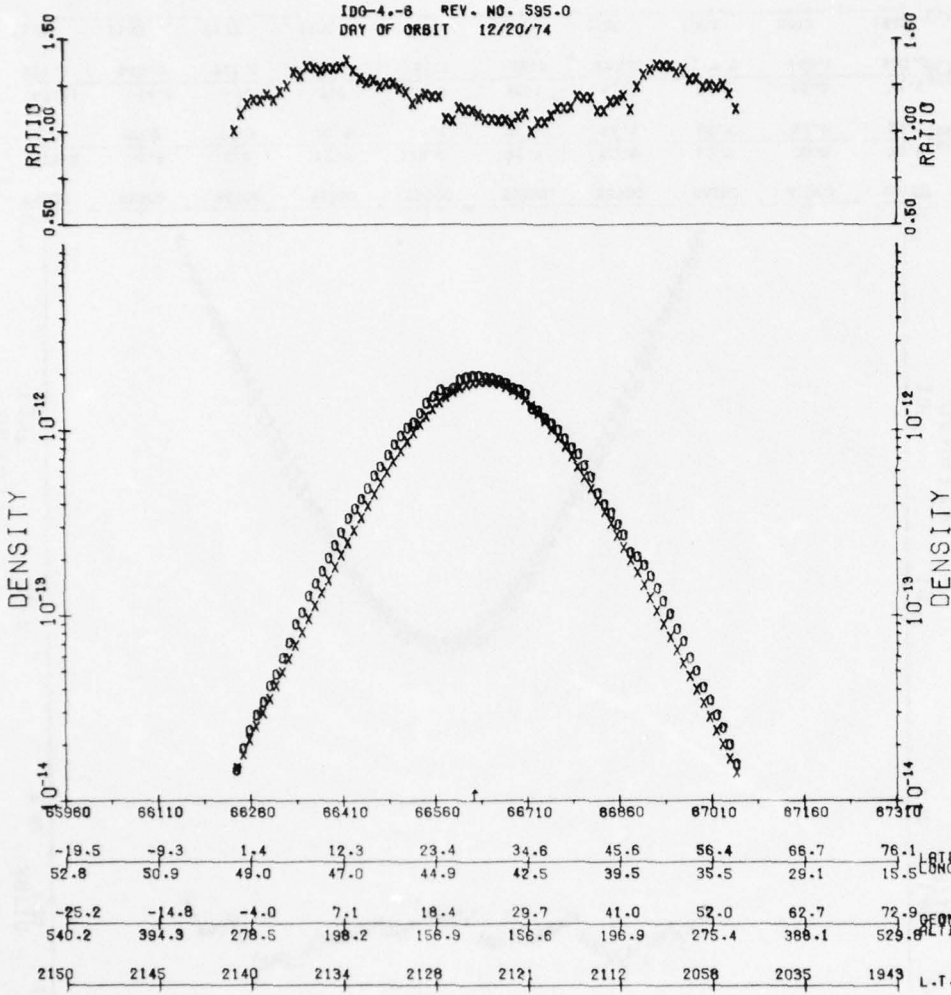
KP=3+
F10.7=95.0



PERIGEE
ALT(KM.)= 151.61
LONG(E)= 73.80
LAT(DEG.)= 29.27
GMT(SEC.)= 59414.7 (1630H)
LOCAL TIME 2125 (H)

IN SHADE FROM 58800. TO 60150.

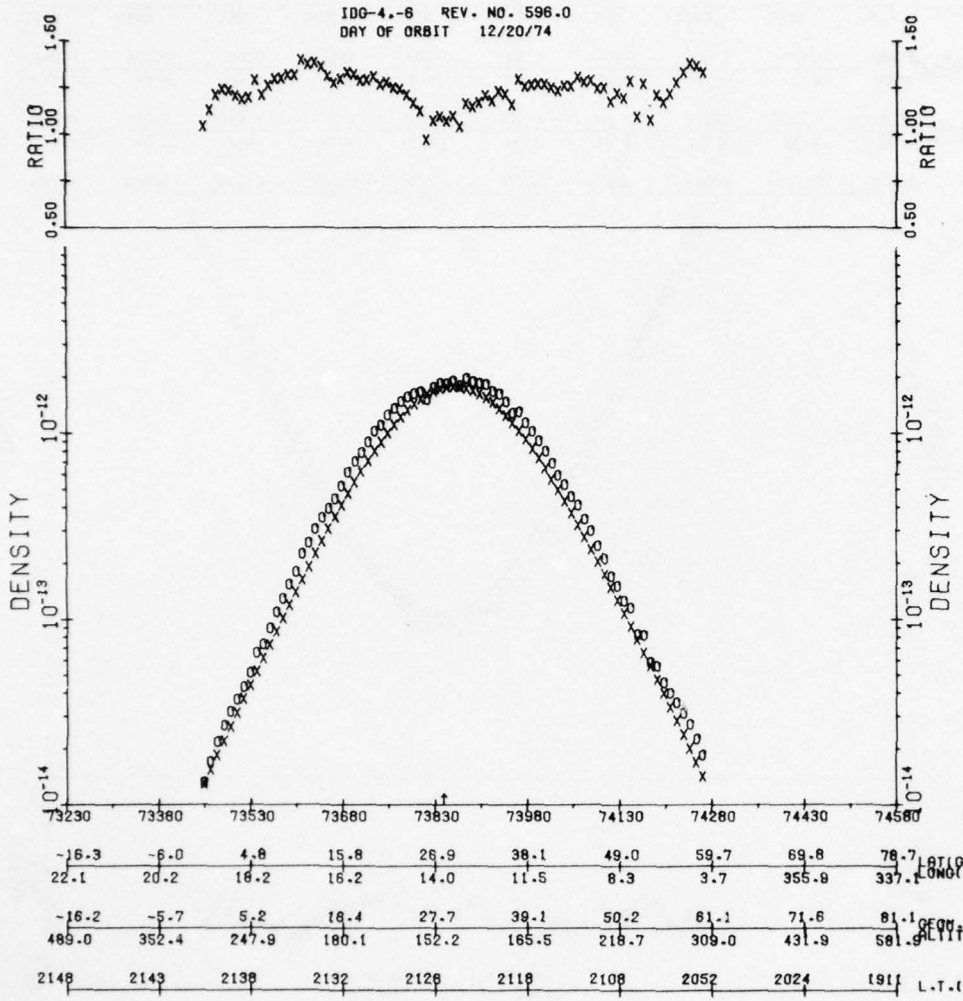
KP=4+
F10.7=95.0



PERIGEE
ALT(KM.)= 151.60
LONG(E)= 49.70
LAT(DEG.)= 29.09
GMT(SEC.)= 66636.1 (1830H)
LOCAL TIME 2125 (H)

IN SHADE FROM 65960. TO 67310.

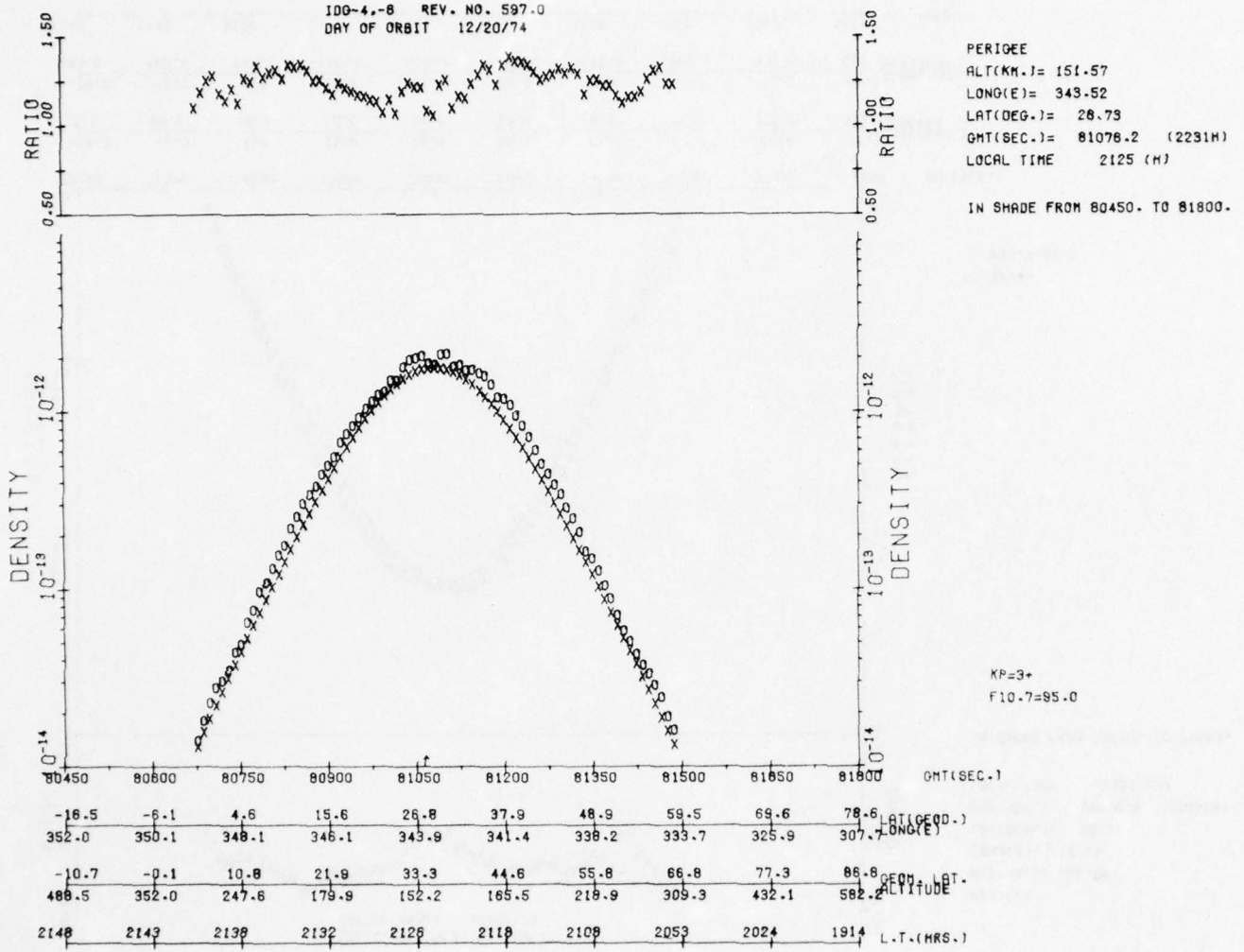
KP=4+
F10.7=95.0



PERIGEE
ALT(KM.)= 151.58
LONG(E)= 13.61
LAT(DEG.)= 28.91
GMT(SEC.)= 73856.6 (2030H)
LOCAL TIME 2125 (H)

IN SHADE FROM 73230. TO 74580.

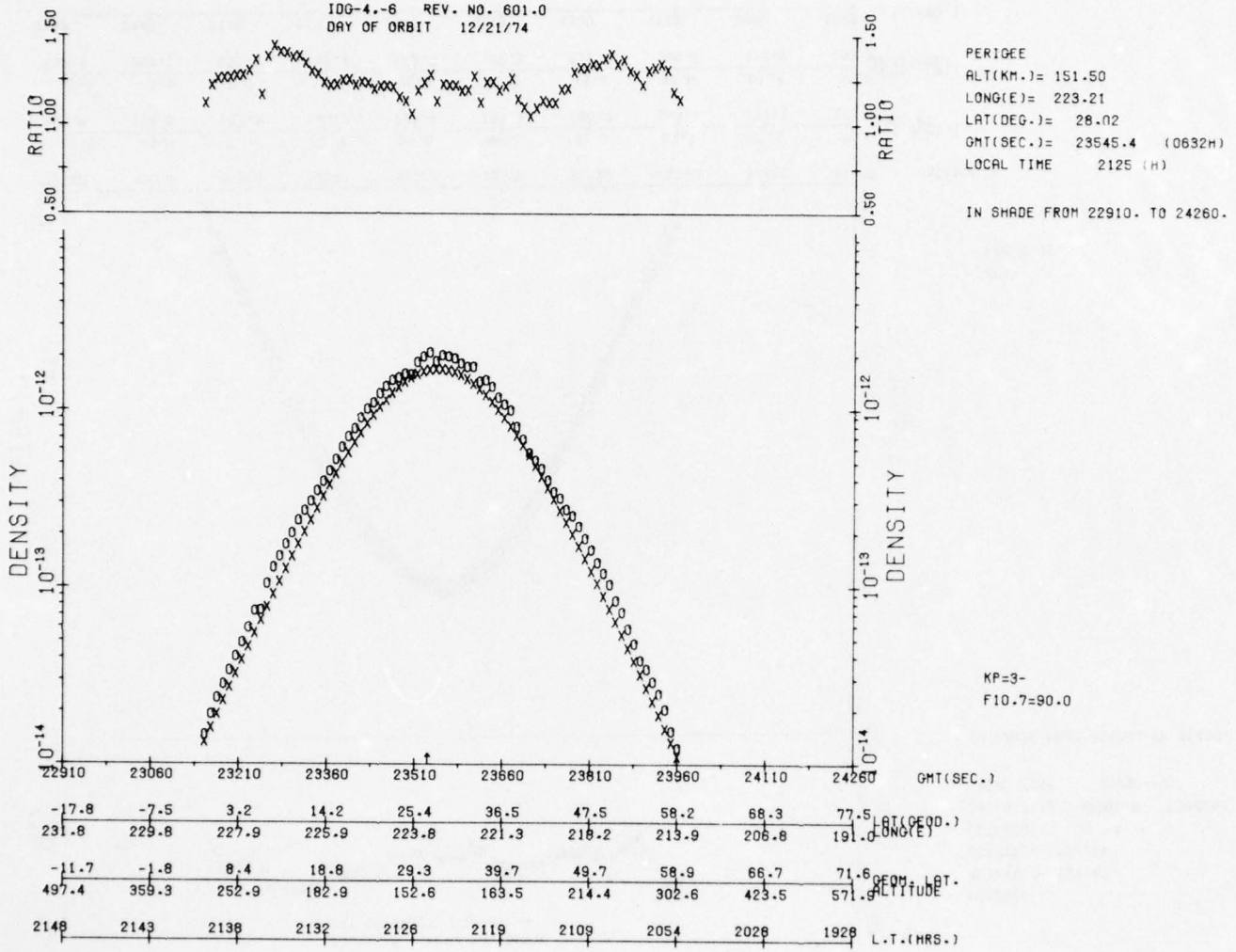
KP=4-
F10.7=95.0



PERIGEE
ALT(KM.)= 151.57
LONG(E)= 343.52
LAT(DEG.)= 28.73
GMT(SEC.)= 81078.2 (2231H)
LOCAL TIME 2125 (H)

IN SHADE FROM 80450. TO 81800.

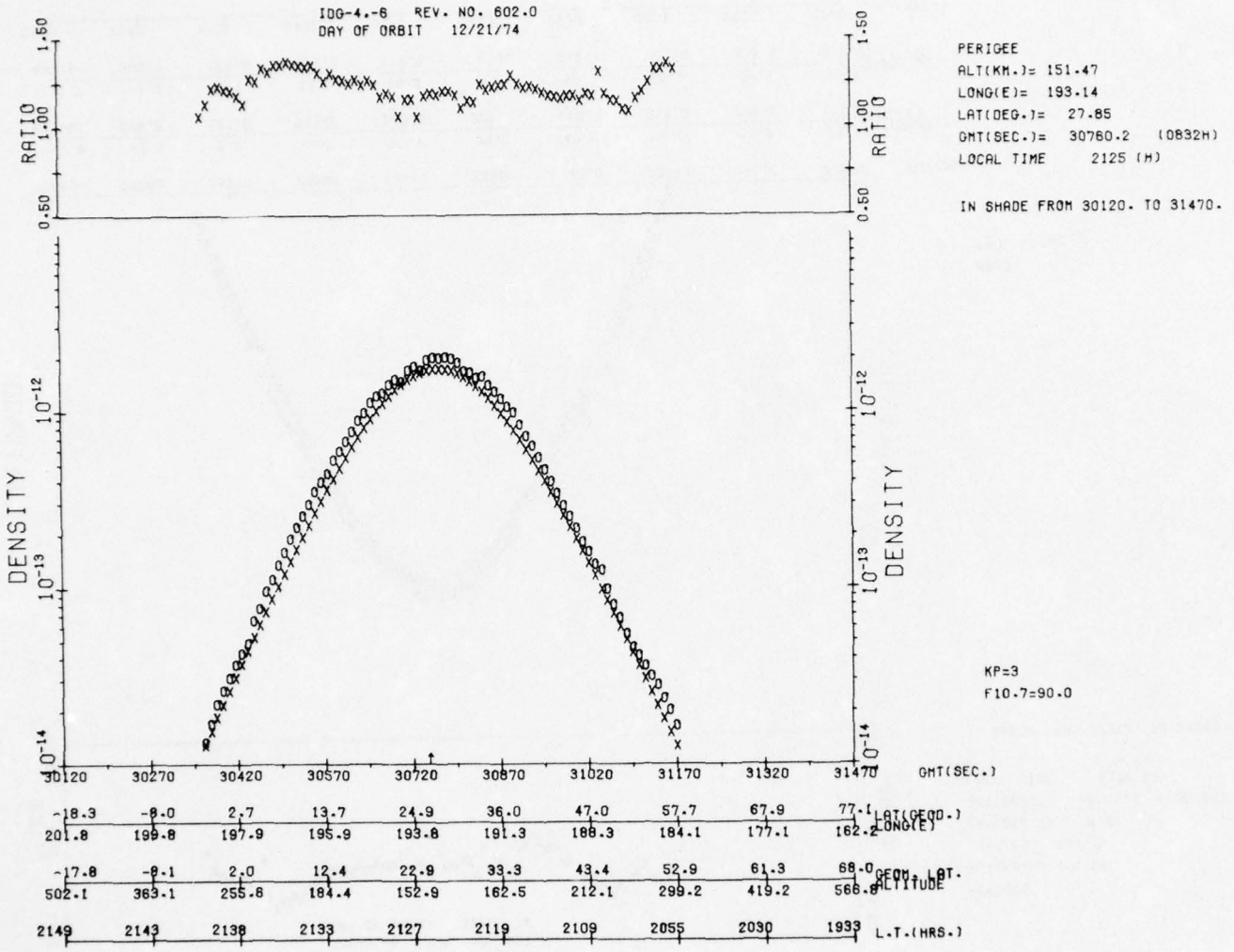
KP=3+
F10.7=95.0

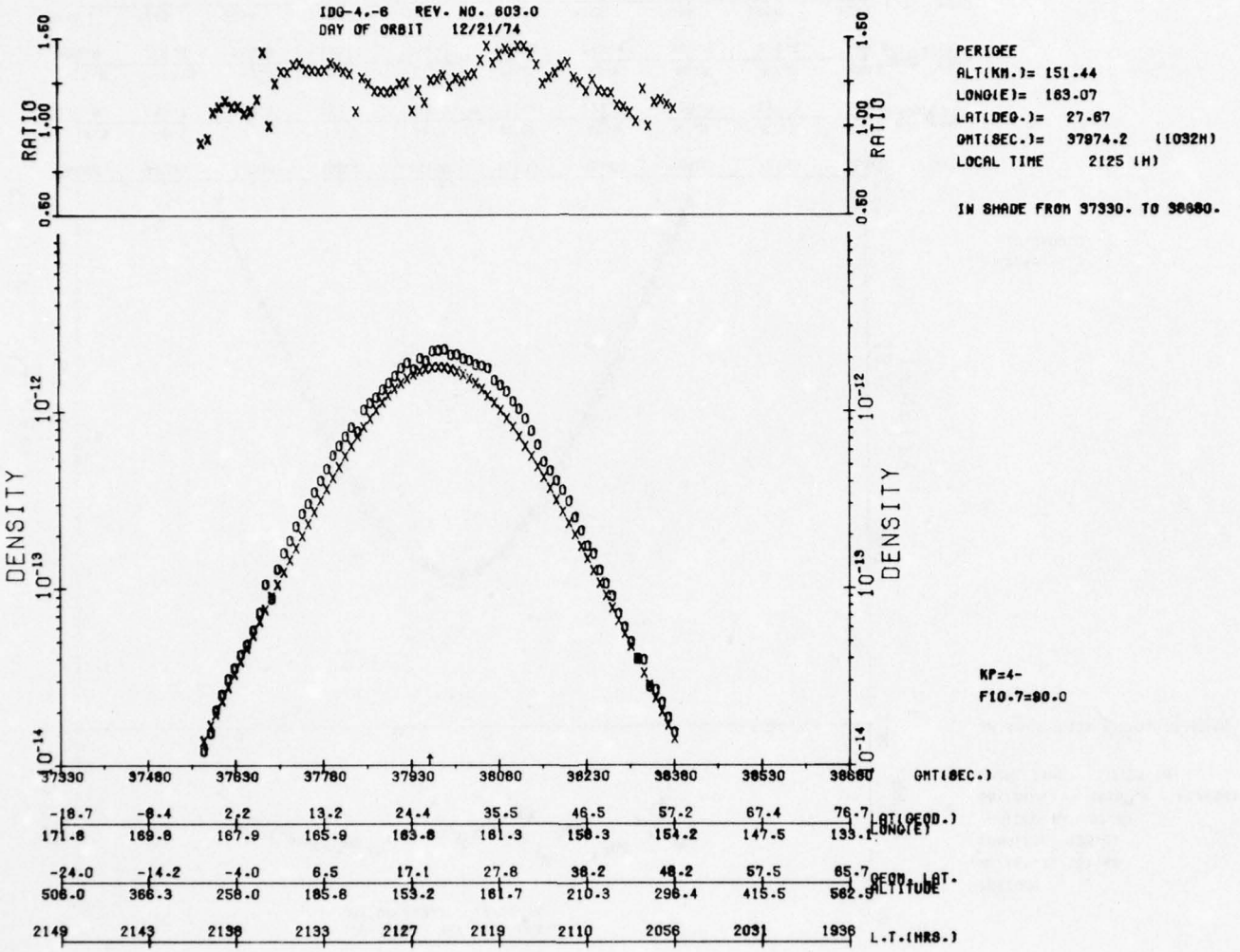


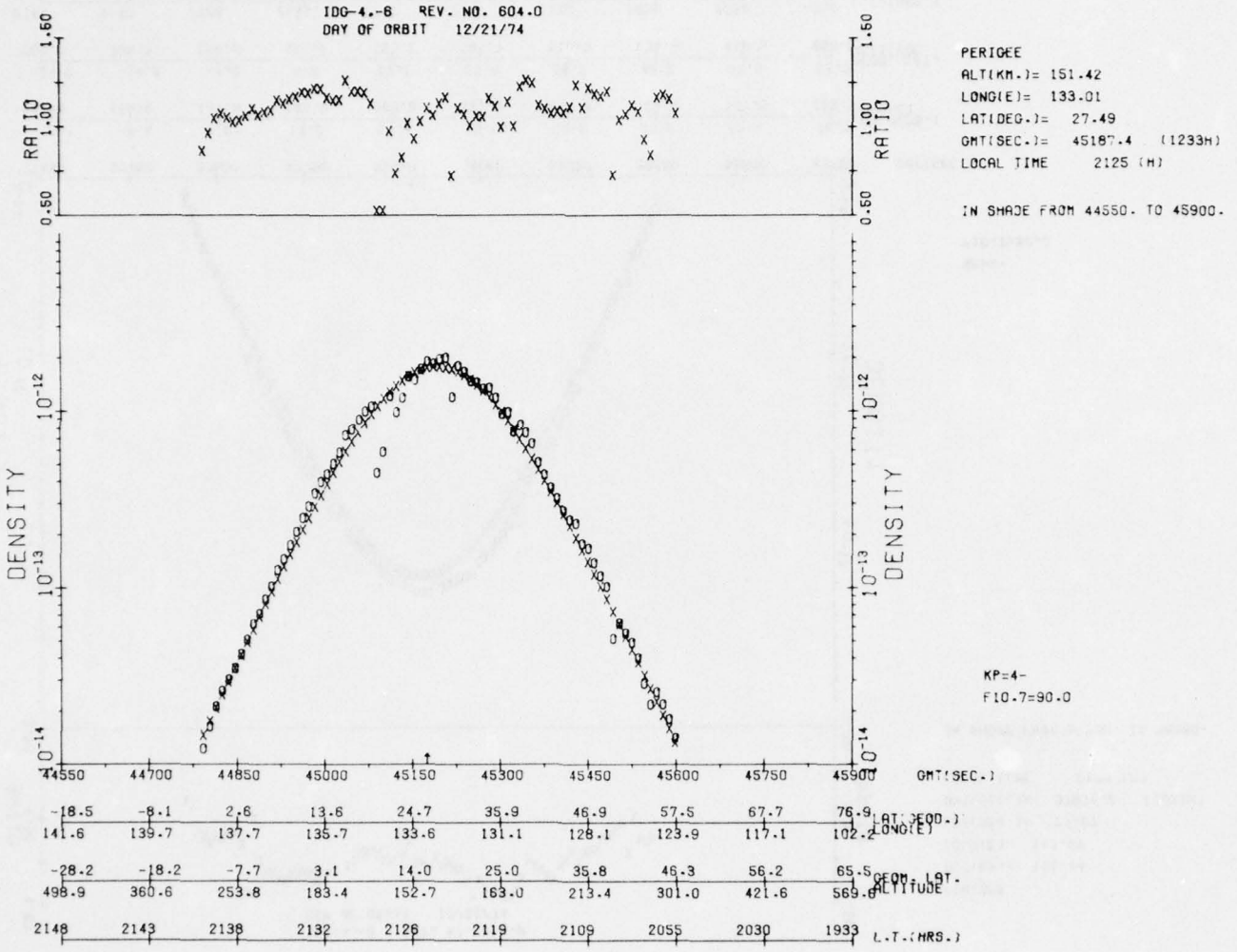
PERIGEE
ALT(KM.)= 151.50
LONG(E)= 223.21
LAT(DEG.)= 28.02
GMT(SEC.)= 23545.4 (0632H)
LOCAL TIME 2125 (H)

IN SHADE FROM 22910. TO 24260.

KP=3-
F10.7=90.0


IDG-4.-6 REV. NO. 602.0
DAY OF ORBIT 12/21/74
RATIO
1.50
1.00
0.50
DENSITY
10^{-12}
10^{-13}
10^{-14}
PERIGEE
ALT(KM.)= 151.47
LONG(E)= 193.14
LAT(DEG.)= 27.85
GMT(SEC.)= 30760.2 (0832H)
LOCAL TIME 2125 (H)
IN SHADE FROM 30120. TO 31470.
KP=3
F10.7=90.0
30120 30270 30420 30570 30720 30870 31020 31170 31320 31470 GMT(SEC.)
-18.3 -8.0 2.7 13.7 24.9 36.0 47.0 57.7 67.9 77.1 LAT(GEOD.)
201.8 199.8 197.9 195.9 193.8 191.3 188.3 184.1 177.1 162.2 LONG(E)
-17.8 -8.1 2.0 12.4 22.9 33.3 43.4 52.9 61.3 68.0 GEOM. LAT.
502.1 363.1 255.8 184.4 152.9 162.5 212.1 299.2 419.2 568.8 ALTITUDE
2149 2143 2138 2133 2127 2119 2109 2055 2030 1933 L.T.(HRS.)

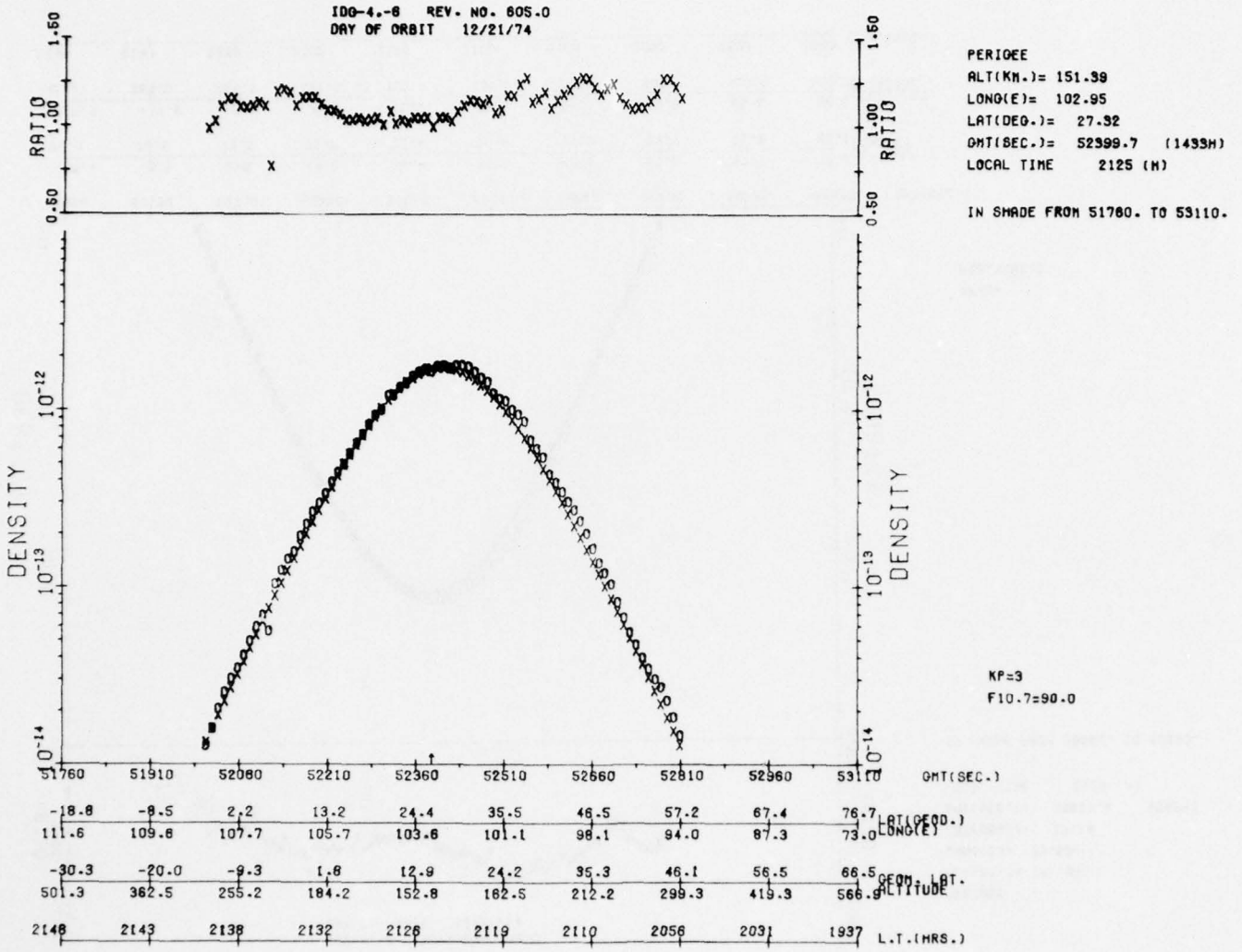

IDG-4,-6 REV. NO. 603.0
DAY OF ORBIT 12/21/74
RATIO
1.50
1.00
0.50
DENSITY
10^{-12}
10^{-13}
10^{-14}
PERIGEE
ALT(KM.)= 151.44
LONG(E)= 163.07
LAT(DEG.)= 27.67
GMT(SEC.)= 37974.2 (1032H)
LOCAL TIME 2125 (H)
IN SHADE FROM 37330. TO 38680.
KP=4-
F10.7=80.0
37330 37480 37630 37780 37930 38080 38230 38380 38530 38680 GMT(SEC.)
-18.7 -8.4 2.2 13.2 24.4 35.5 46.5 57.2 67.4 76.7 LAT(DEGD.)
171.8 169.8 167.9 165.9 163.8 161.3 158.3 154.2 147.5 133.1 LONG(E)
-24.0 -14.2 -4.0 6.5 17.1 27.8 38.2 48.2 57.5 65.7 GEOM. LAT.
506.0 366.3 258.0 185.8 153.2 161.7 210.3 298.4 415.5 562.5 ALTITUDE
2149 2143 2138 2133 2127 2119 2110 2056 2031 1936 L.T.(HRS.)



PERIGEE
ALT(KM.)= 151.42
LONG(E)= 133.01
LAT(DEG.)= 27.49
GMT(SEC.)= 45187.4 (1233H)
LOCAL TIME 2125 (H)

IN SHADE FROM 44550. TO 45900.

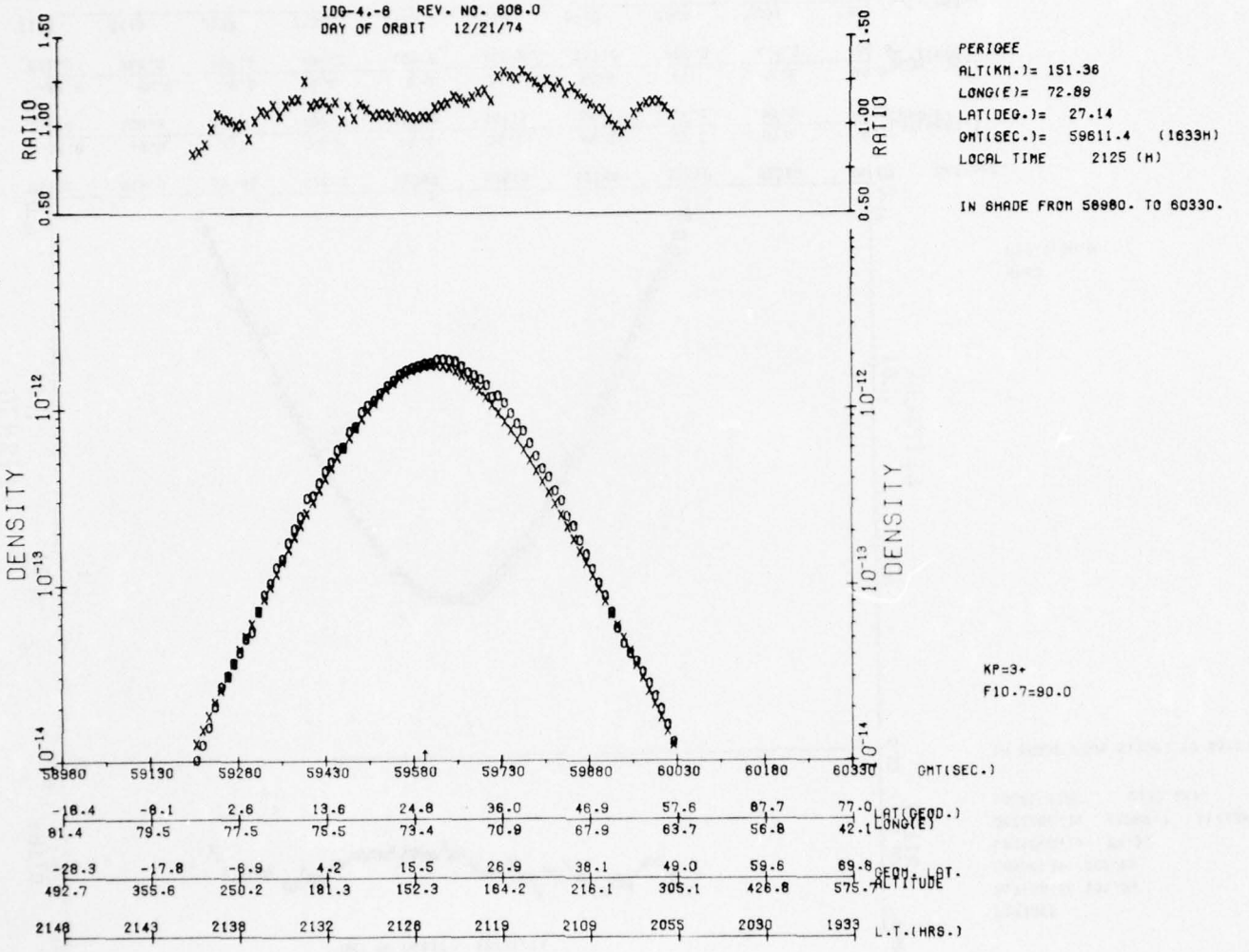
KP=4-
F10.7=90.0



PERIGEE
ALT(KM.)= 151.38
LONG(E)= 102.95
LAT(DEG.)= 27.32
GMT(SEC.)= 52399.7 (1433M)
LOCAL TIME 2125 (M)

IN SHADE FROM 51760. TO 53110.

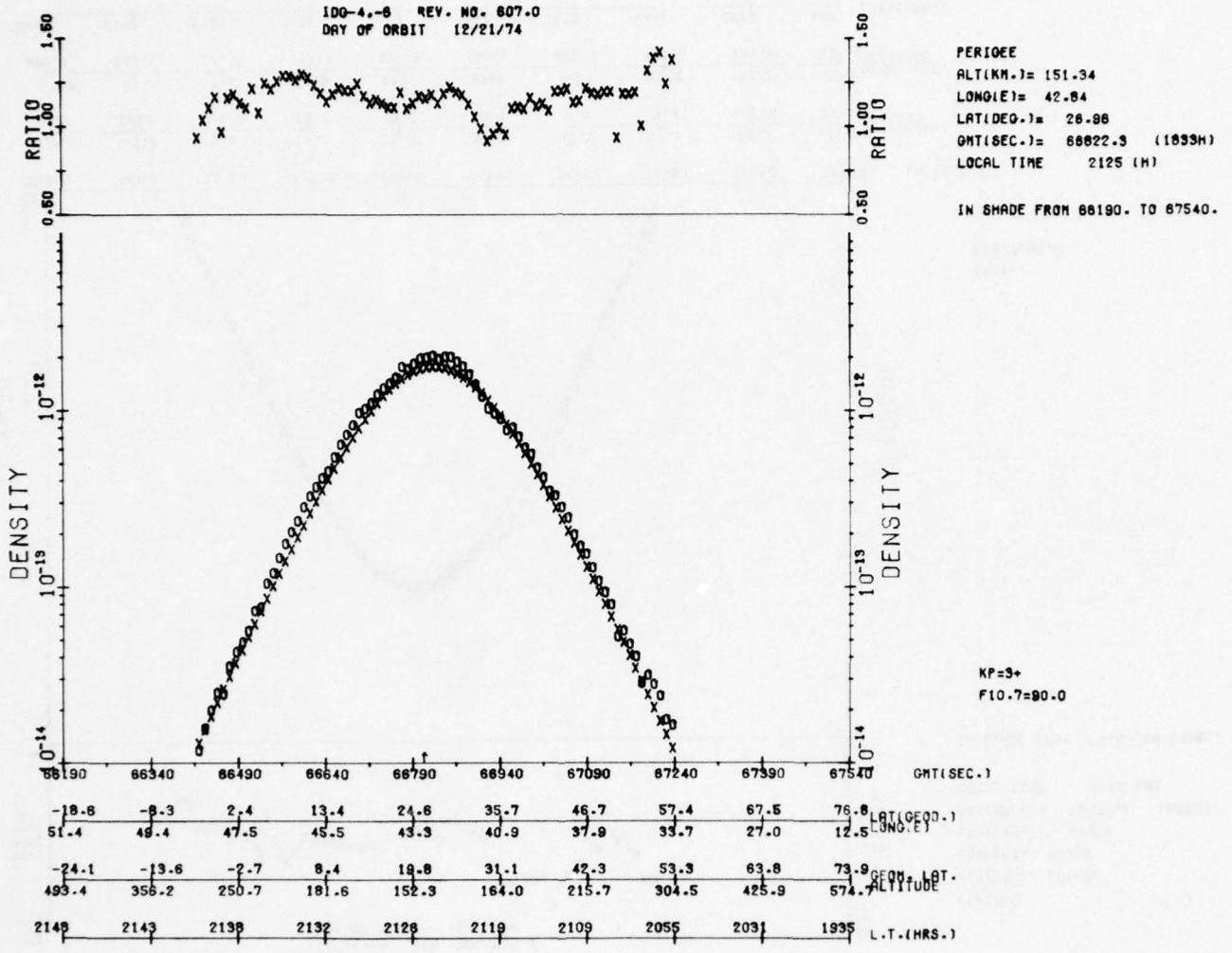
KP=3
F10.7=90.0

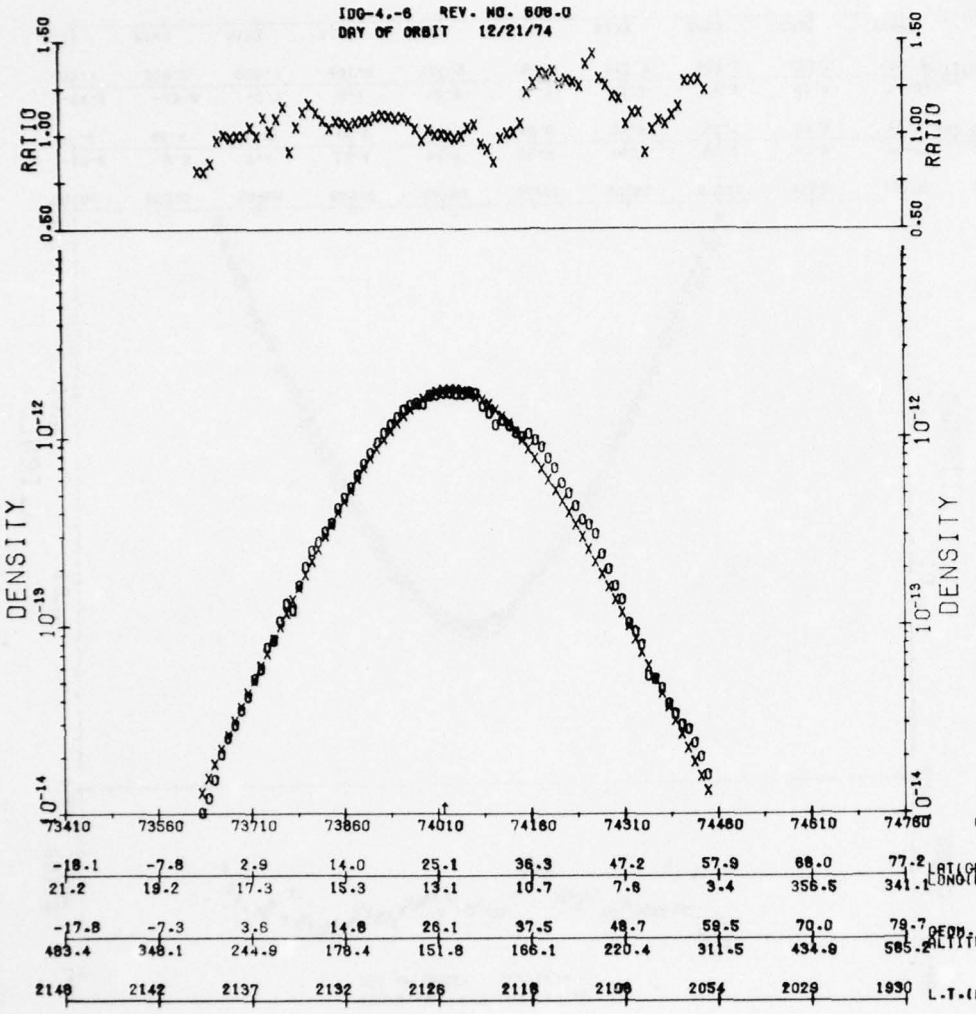


PERIGEE
ALT(KM.)= 151.36
LONG(E)= 72.89
LAT(DEG.)= 27.14
GMT(SEC.)= 59611.4 (1633H)
LOCAL TIME 2125 (H)

IN SHADE FROM 58980. TO 60330.

KP=3+
F10.7=80.0

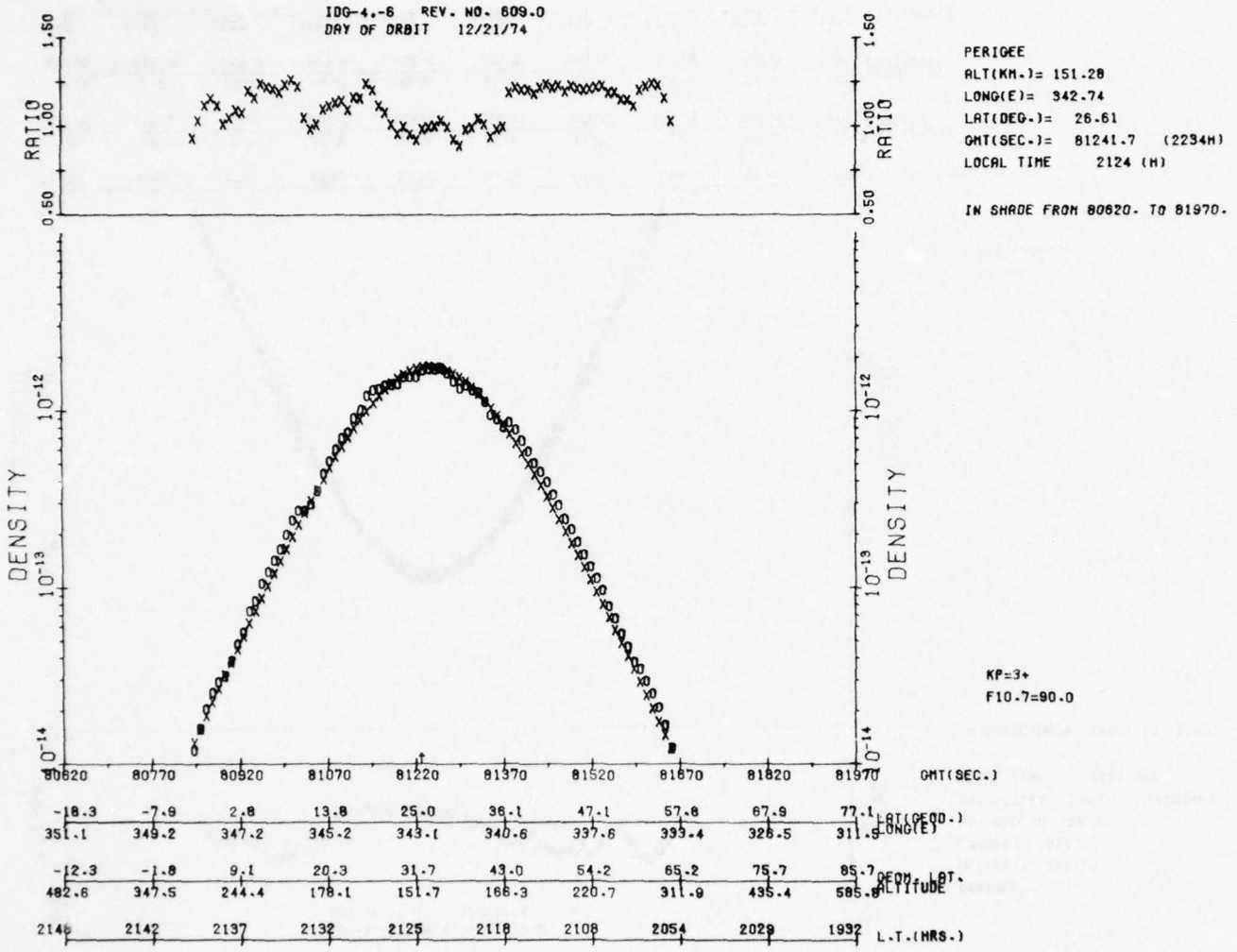

IDO-4.-6 REV. NO. 607.0
DAY OF ORBIT 12/21/74
RATIO
1.50
1.00
0.50
DENSITY
10^{-12}
10^{-13}
10^{-14}
PERIGEE
ALT(KM.)= 151.34
LONG(E)= 42.84
LAT(DEG.)= 28.86
GMT(SEC.)= 66822.3 (1855H)
LOCAL TIME 2125 (H)
IN SHADE FROM 66190. TO 67540.
KP=3+
F10.7=90.0
66190 66340 66490 66640 66790 66940 67090 67240 67390 67540 GMT(SEC.)
-18.6 -8.3 2.4 13.4 24.6 35.7 46.7 57.4 67.5 76.8 LAT(GEOD.)
51.4 49.4 47.5 45.5 43.3 40.9 37.9 33.7 27.0 12.5 LONG.(E)
-24.1 -13.6 -2.7 8.4 18.8 31.1 42.3 53.3 63.8 73.9 GEOM. LAT.
493.4 356.2 250.7 181.6 152.3 164.0 215.7 304.5 425.9 574.7 ALTITUDE
2148 2143 2138 2132 2128 2119 2109 2055 2031 1935 L.T.(HRS.)



PERIGEE
ALT(KM.)= 151.31
LONG(E)= 12.79
LAT(DEG.)= 28.79
GMT(SEC.)= 74032.4 (2033H)
LOCAL TIME 2125 (H)

IN SHADE FROM 73410. TO 74760.

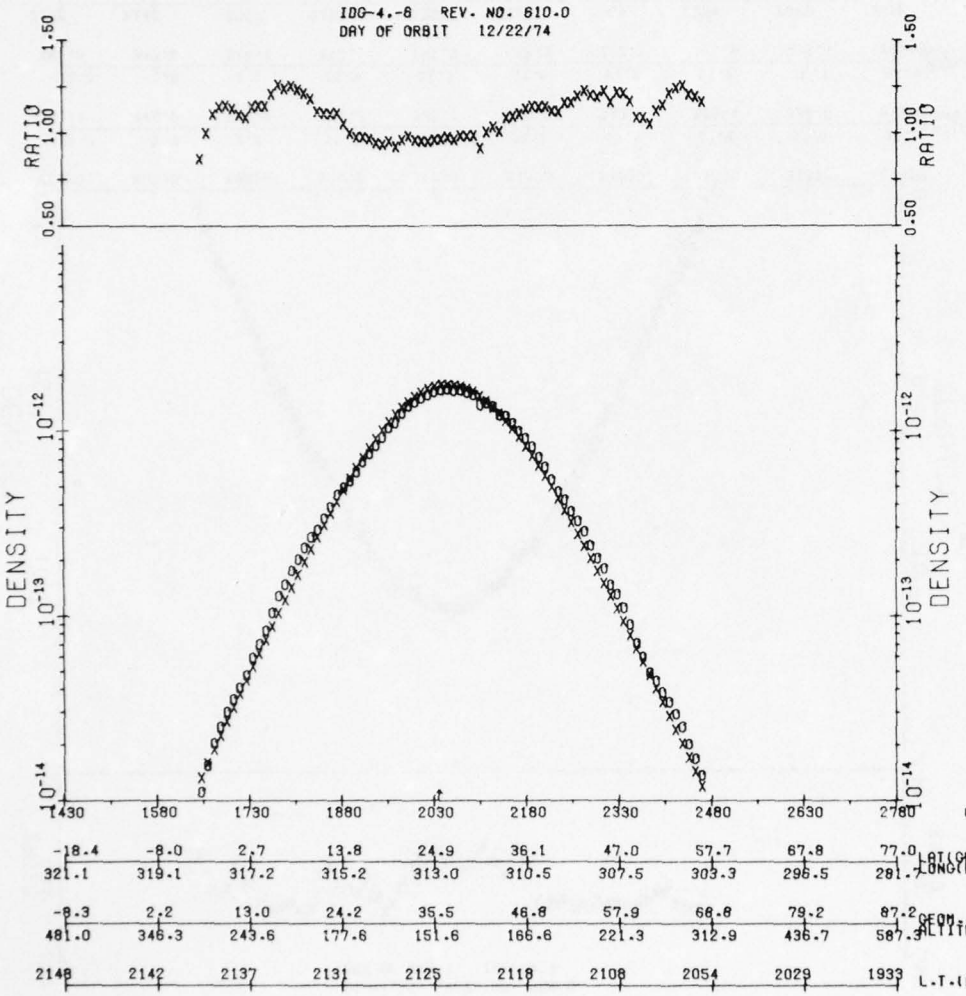
KP=4-
F10.7=90.0



PERIGEE
ALT(KM.)= 151.28
LONG(E)= 342.74
LAT(DEG.)= 26.61
GMT(SEC.)= 81241.7 (2234H)
LOCAL TIME 2124 (H)

IN SHADE FROM 80620. TO 81970.

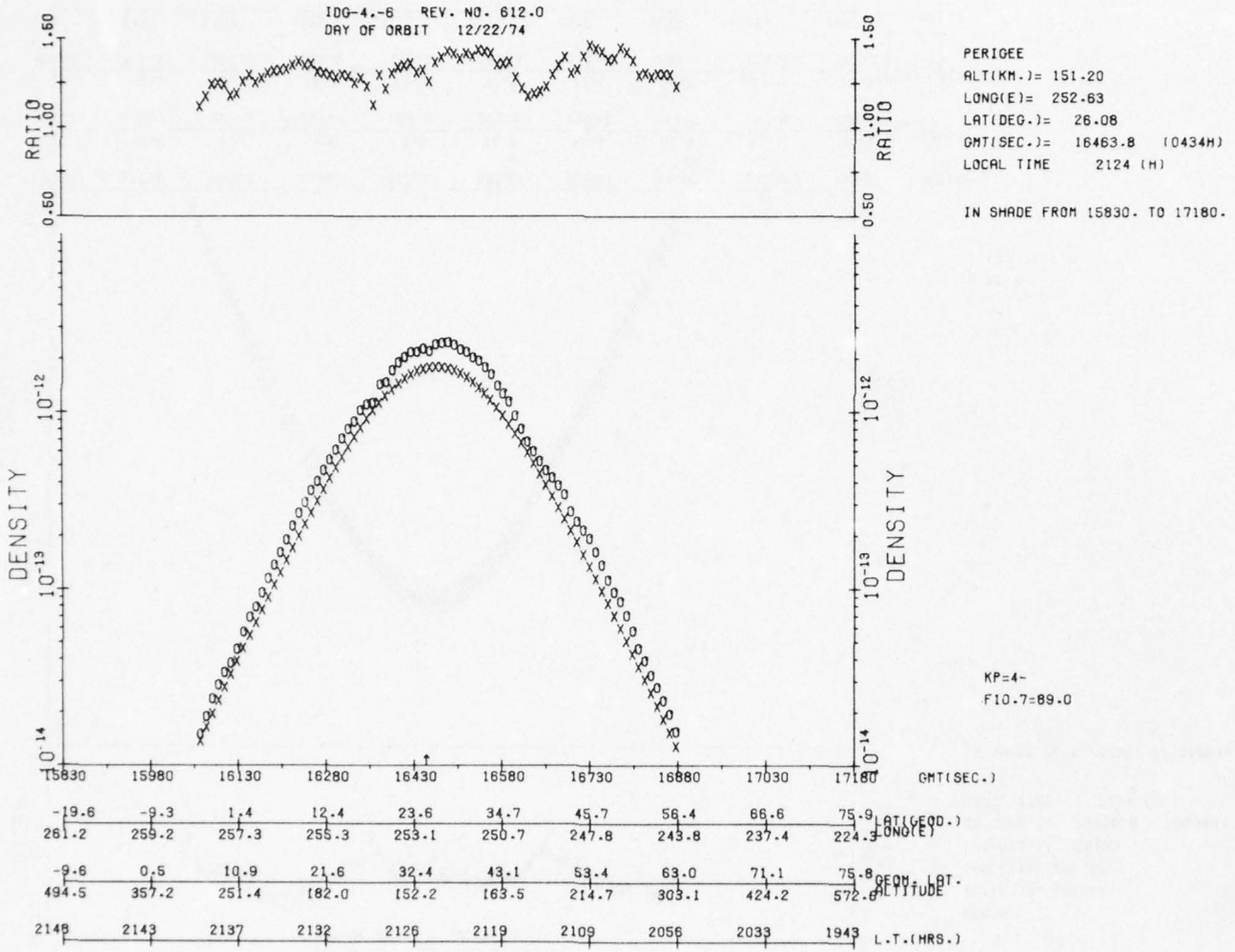
KP=3+
F10.7=90.0



PERIGEE
ALT(KM.)= 151.26
LONG(E)= 312.70
LAT(DEG.)= 26.43
GMT(SEC.)= 2050.2 (0034H)
LOCAL TIME 2124 (H)

IN SHADE FROM 1430. TO 2780.

KP=3+
F10.7=89.0



PERIGEE
ALT(KM.)= 151.20
LONG(E)= 252.63
LAT(DEG.)= 26.08
GMT(SEC.)= 16463.8 (0434H)
LOCAL TIME 2124 (H)

IN SHADE FROM 15830. TO 17180.

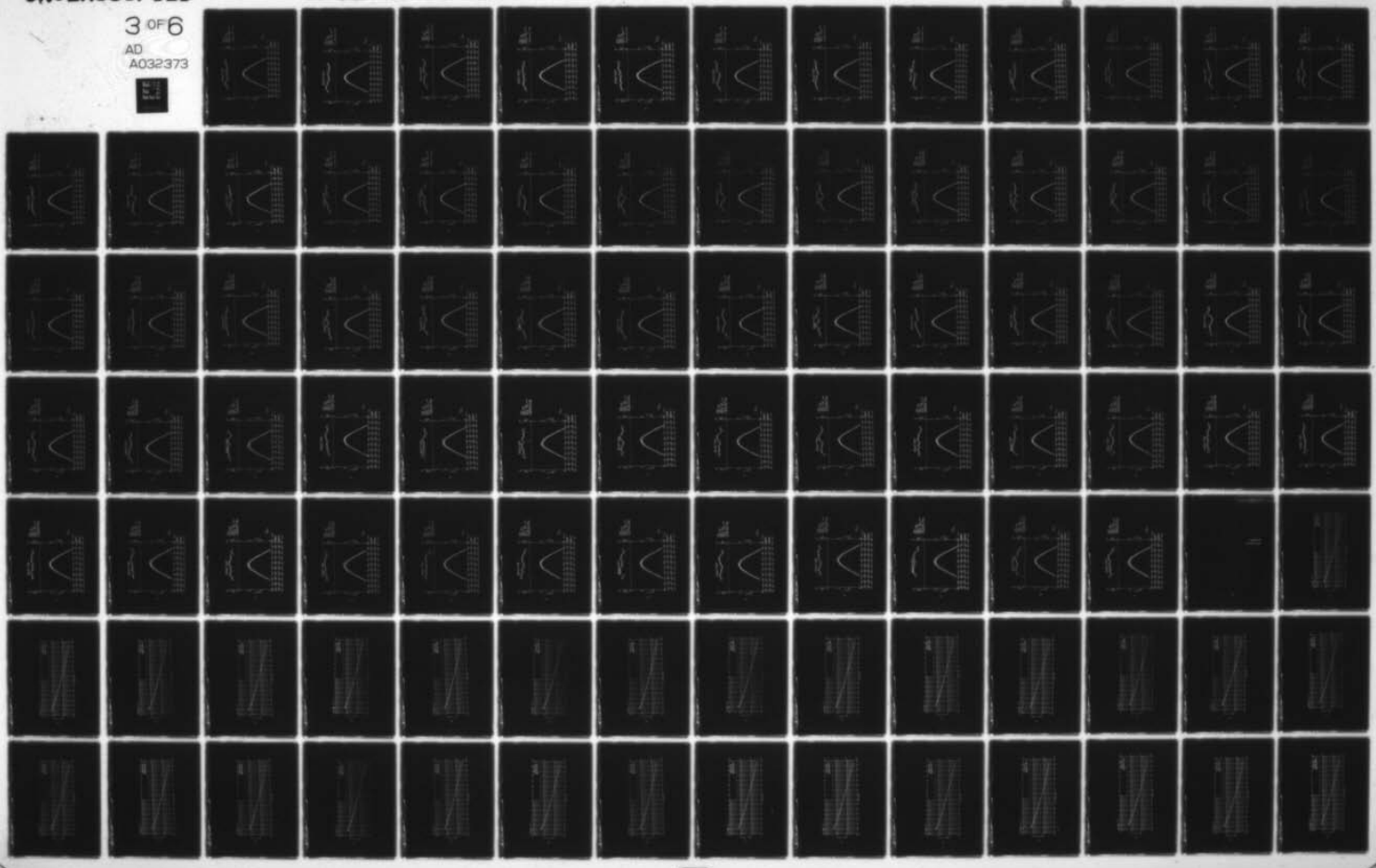
KP=4-
F10.7=89.0

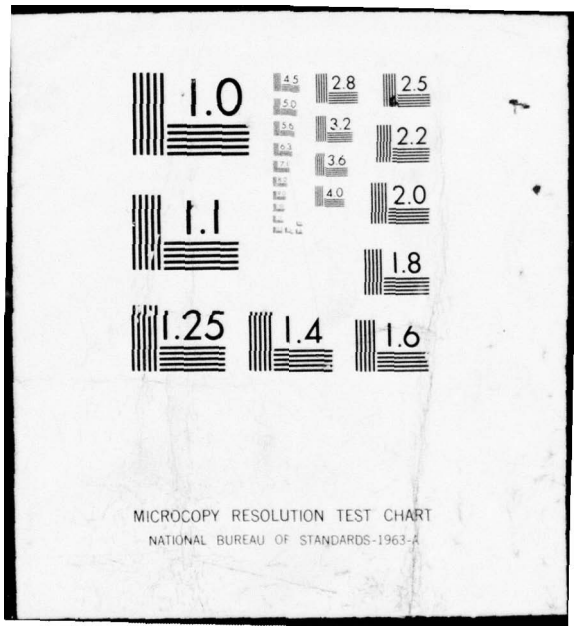
191

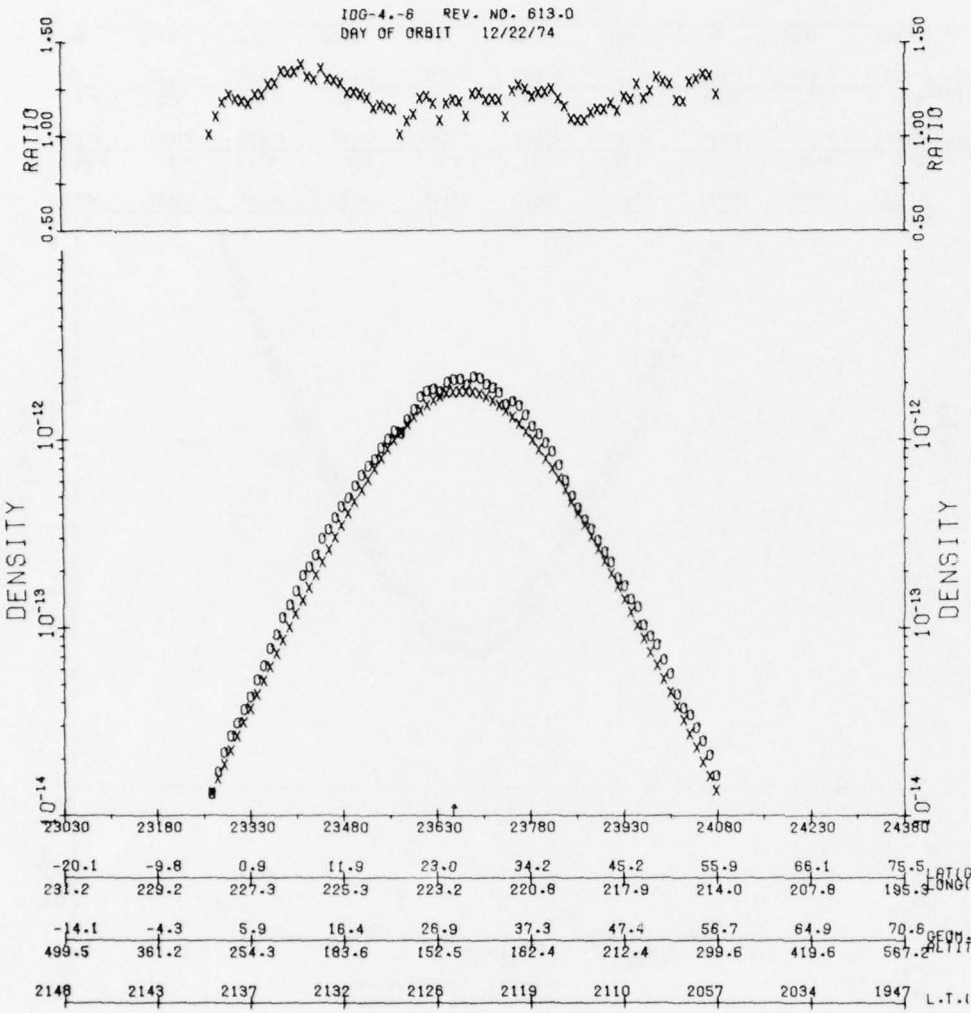
AD-A032 373 AIR FORCE GEOPHYSICS LAB HANSCOM AFB MASS F/G 4/1
IONIZATION GAUGE MEASUREMENTS OF ATMOSPHERIC DENSITY FROM A LOW--ETC(U)
MAY 76 J P MCISAAC, K S CHAMPION

UNCLASSIFIED AFGL-TR-76-0113 NL

3 OF 6
AD
A032373



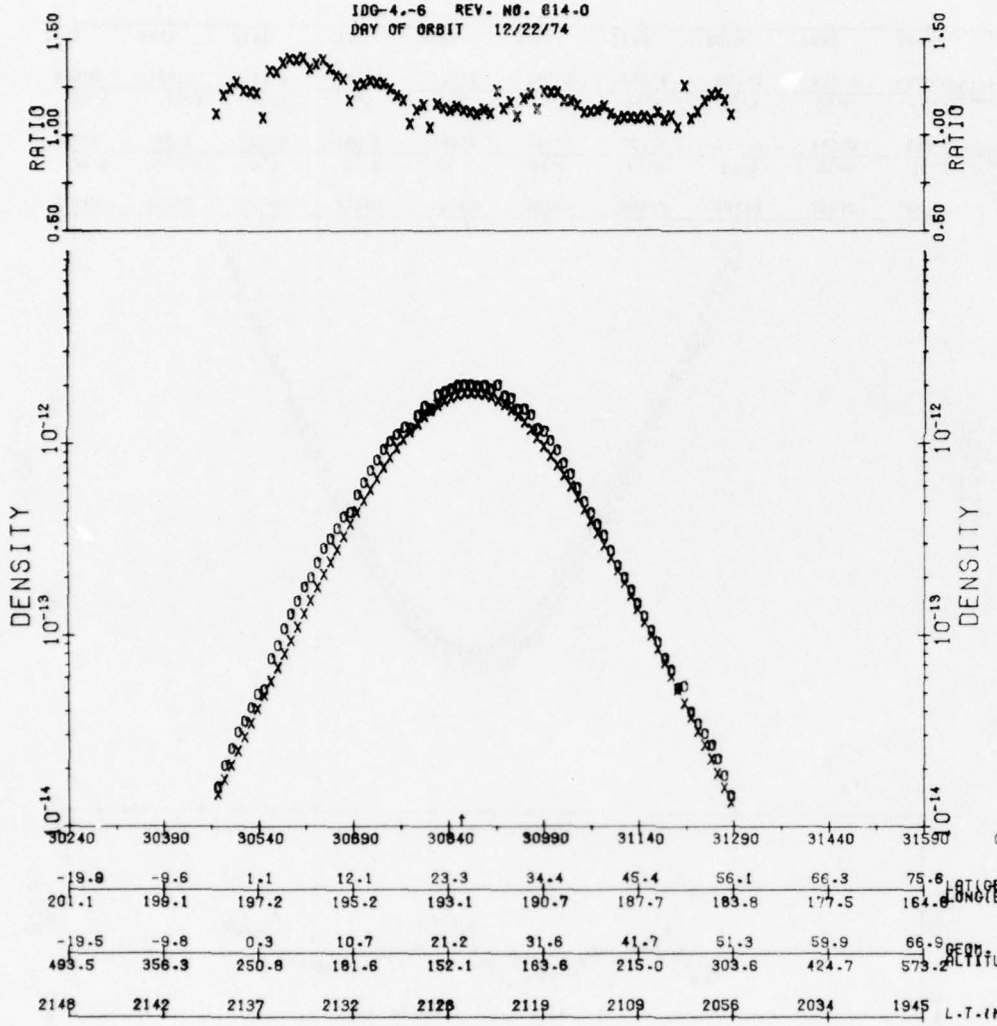

1.0
1.1
1.25
1.4
1.6
1.8
2.0
2.2
2.5
2.8
3.2
3.6
4.0
4.5
5.0
5.6
6.3
7.1
8.0
MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS-1963-A



PERIGEE
ALT(KM.)= 151.17
LONG(E)= 222.60
LAT(DEG.)= 25.90
GMT(SEC.)= 23668.8 (0634H)
LOCAL TIME 2124 (H)

IN SHADE FROM 23030. TO 24380.

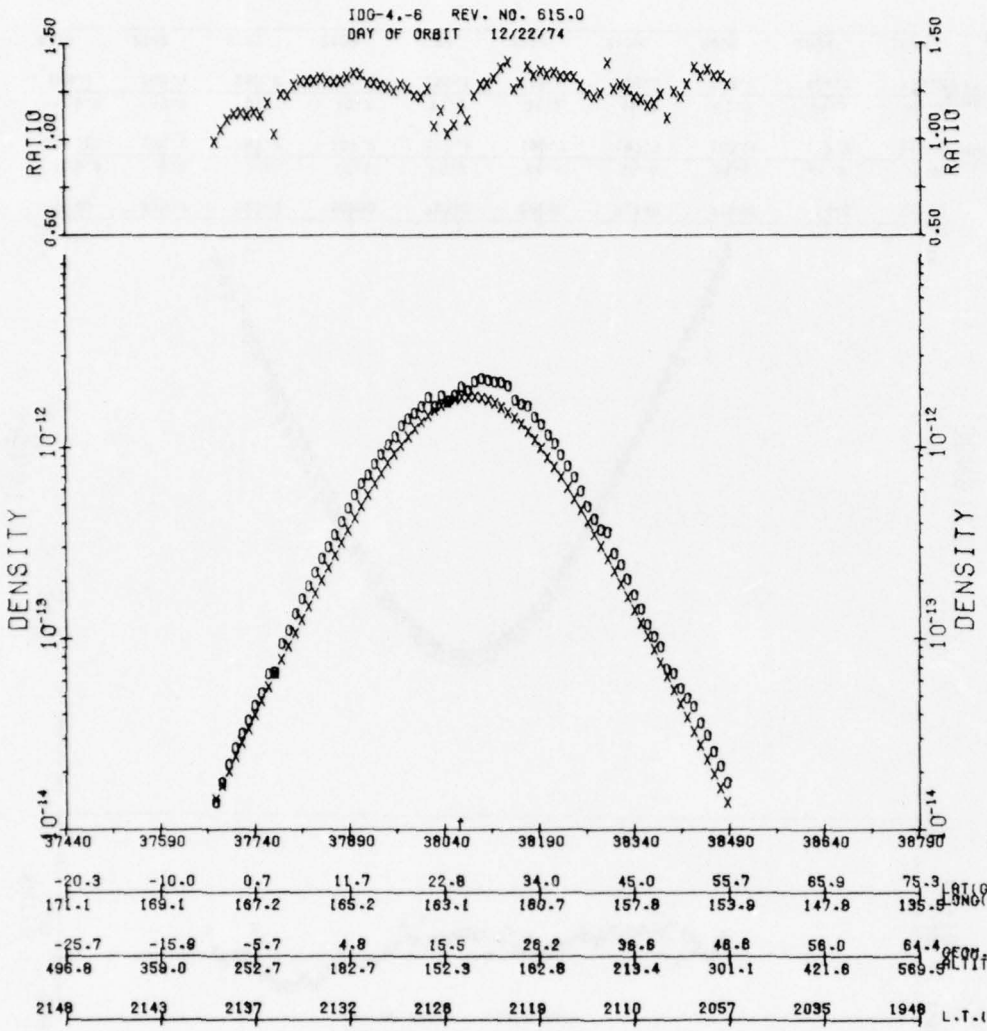
KP=4-
F10.7=89.0



PERIGEE
ALT(KM.)= 151.14
LONG(E)= 192.57
LAT(DEG.)= 25.72
GMT(SEC.)= 30873.1 (0834H)
LOCAL TIME 2124 (H)

IN SHADE FROM 30240. TO 31590.

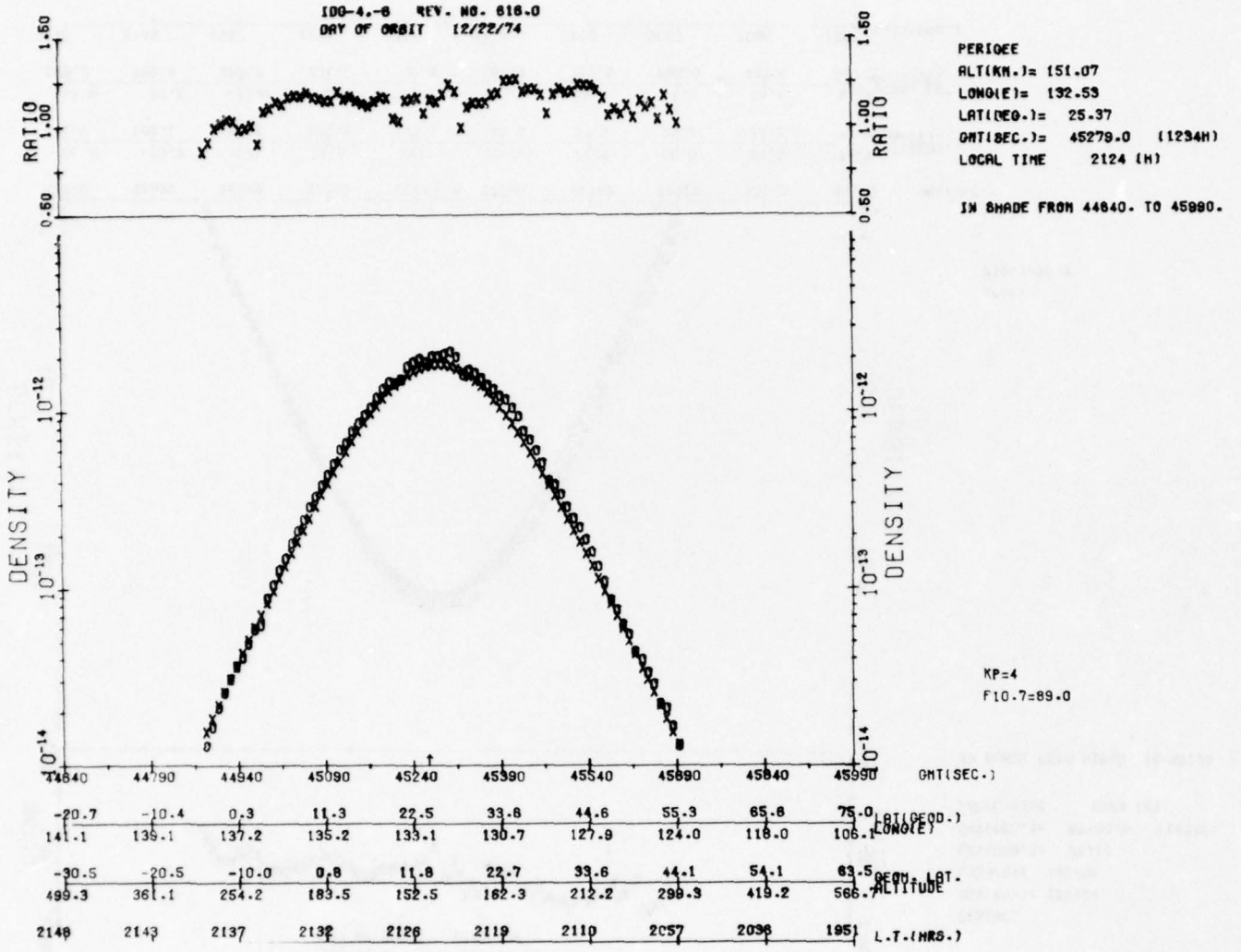
KP=4
F10.7=89.0

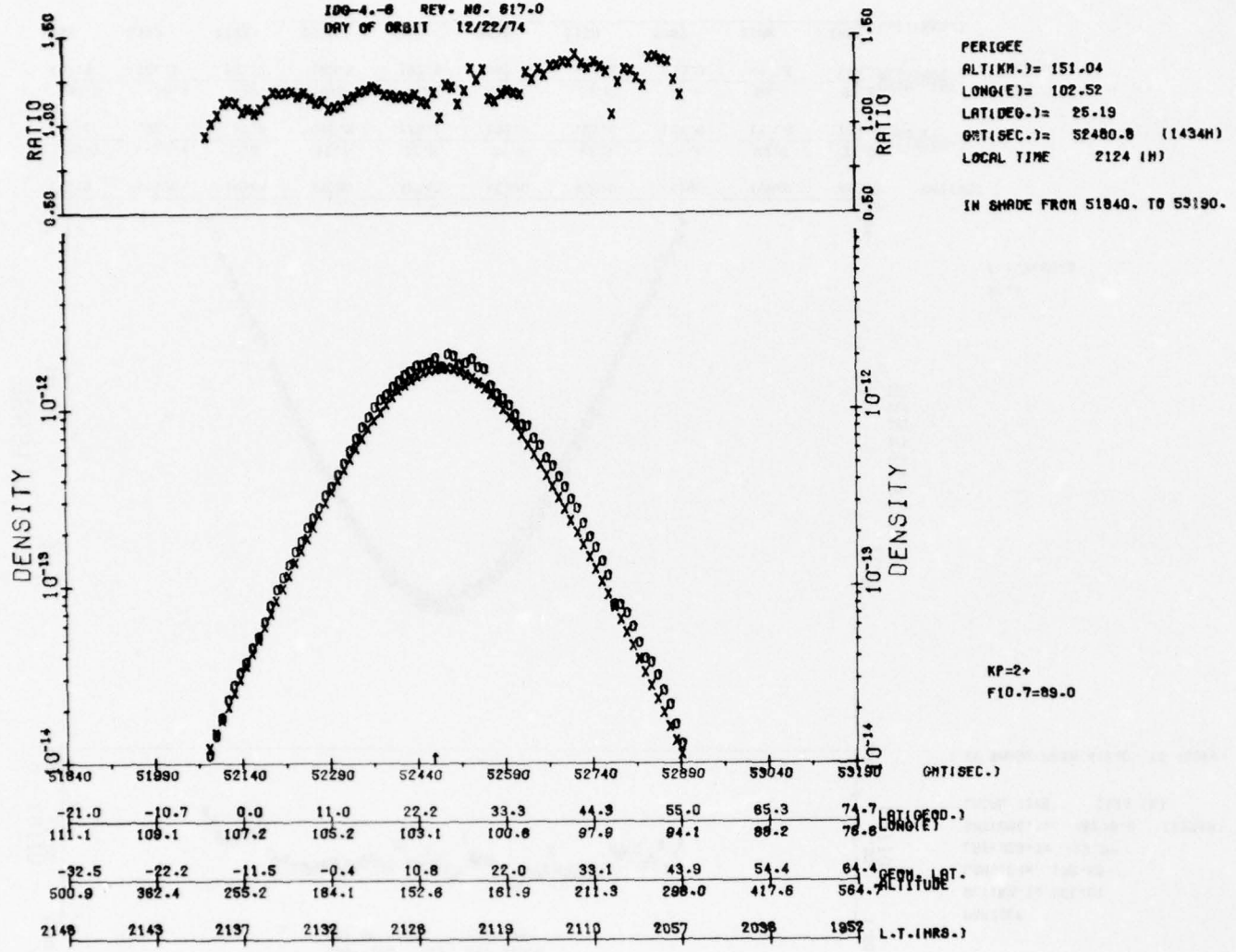


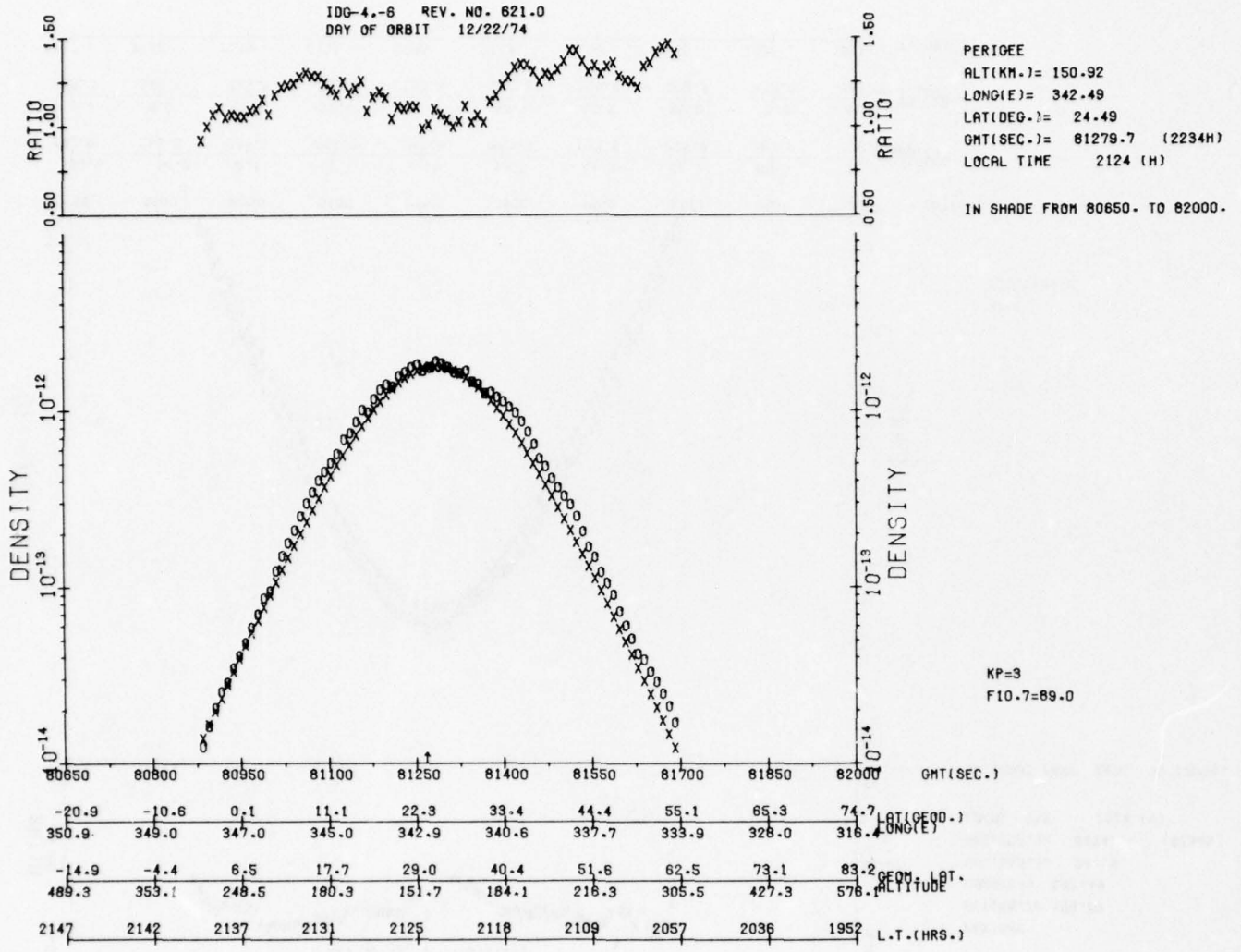
PERIGEE
ALT(KM.)= 151.10
LONG(E)= 162.55
LAT(DEG.)= 25.55
GMT(SEC.)= 38076.4 (1034H)
LOCAL TIME 2124 (H)

IN SHADE FROM 37440. TO 38790.

KP=4
F10.7=89.0


IDO-4.-6 REV. NO. 616.0
DAY OF ORBIT 12/22/74
RATIO
1.50
1.00
0.50
DENSITY
10^{-12}
10^{-13}
10^{-14}
PERIGEE
ALT(KM.)= 151.07
LONG(E)= 132.53
LAT(DEG.)= 25.37
GMT(SEC.)= 45279.0 (1234H)
LOCAL TIME 2124 (H)
IN SHADE FROM 44840. TO 45990.
KP=4
F10.7=89.0
44840 44790 44940 45090 45240 45390 45540 45690 45840 45990 GMT(SEC.)
-20.7 -10.4 0.3 11.3 22.5 33.6 44.6 55.3 65.6 75.0 LAT(GEOD.)
141.1 139.1 137.2 135.2 133.1 130.7 127.9 124.0 118.0 106.1 LONG(E)
-30.5 -20.5 -10.0 0.8 11.8 22.7 33.6 44.1 54.1 63.5 GEOM. LAT.
499.3 361.1 254.2 183.5 152.5 162.3 212.2 299.3 419.2 566.7 ALTITUDE
2148 2143 2137 2132 2126 2119 2110 2057 2036 1951 L.T.(HRS.)

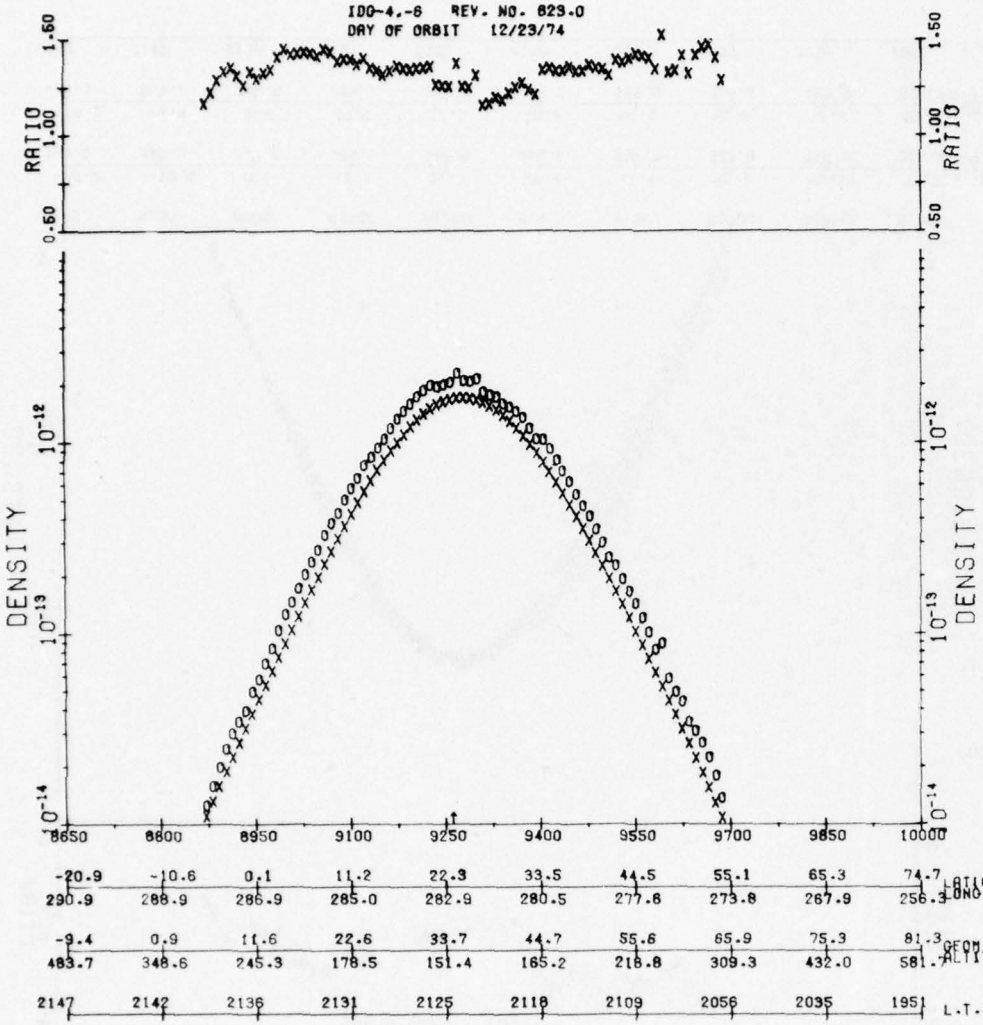

IDG-4.-6 REV. NO. 817.0
DAY OF ORBIT 12/22/74
RATIO
1.50
1.00
0.50
DENSITY
10^{-12}
10^{-13}
10^{-14}
PERIGEE
ALT(KM.)= 151.04
LONG(E)= 102.52
LAT(DEG.)= 25.19
GMT(SEC.)= 52480.8 (1434H)
LOCAL TIME 2124 (H)
IN SHADE FROM 51840. TO 53190.
KP=2+
F10.7=89.0
51840 51990 52140 52290 52440 52590 52740 52890 53040 53190 GMT(SEC.)
-21.0 -10.7 0.0 11.0 22.2 33.3 44.3 55.0 65.3 74.7 LAT(GEOD.)
111.1 109.1 107.2 105.2 103.1 100.8 97.9 94.1 88.2 78.8 LONG(E)
-32.5 -22.2 -11.5 -0.4 10.8 22.0 33.1 43.9 54.4 64.4 GEOM. LAT.
500.9 362.4 255.2 184.1 152.6 161.9 211.3 298.0 417.6 564.7 ALTITUDE
2148 2143 2137 2132 2126 2119 2110 2057 2038 1952 L.T.(HRS.)



PERIGEE
ALT(KM.)= 150.92
LONG(E)= 342.49
LAT(DEG.)= 24.49
GMT(SEC.)= 81279.7 (2234H)
LOCAL TIME 2124 (H)

IN SHADE FROM 80650. TO 82000.

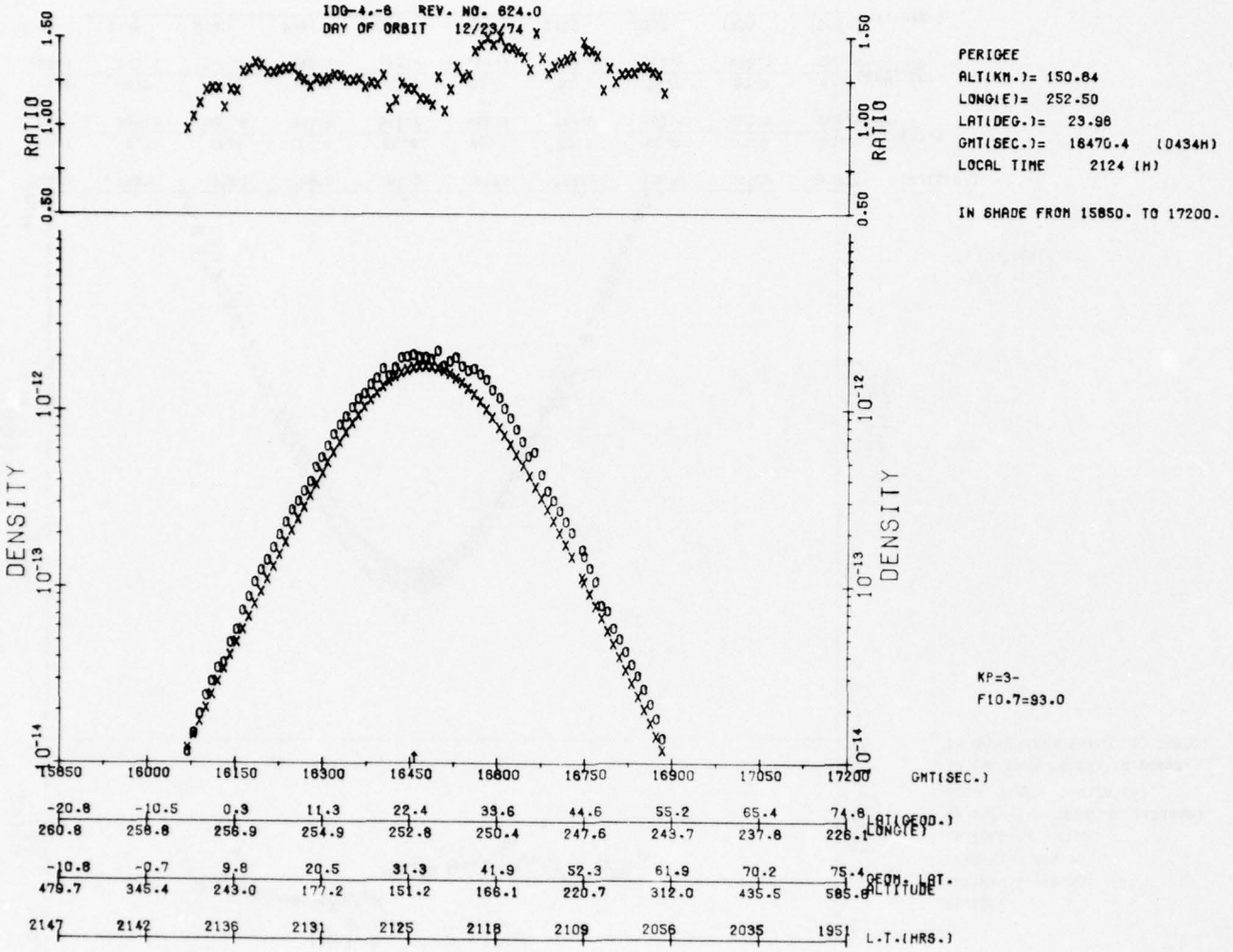
KP=3
F10.7=89.0



PERIGEE
ALT(KM.)= 150.87
LONG(E)= 282.49
LAT(DEG.)= 24.13
GMT(SEC.)= 9274.3 (0234H)
LOCAL TIME 2124 (H)

IN SHADE FROM 8650. TO 10000.

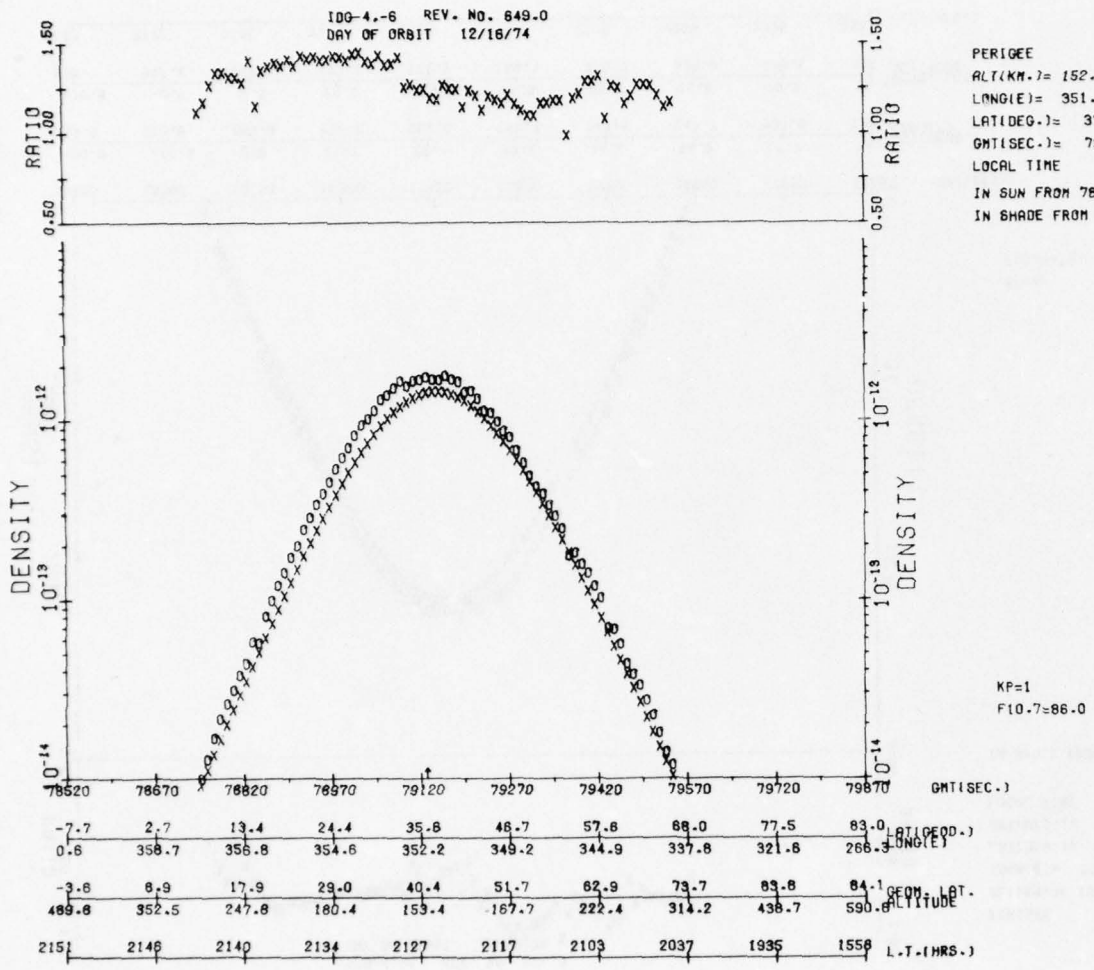
KP=2
F10.7=93.0



PERIGEE
ALT(KM.)= 150.84
LONG(E)= 252.50
LAT(DEG.)= 23.98
GMT(SEC.)= 16470.4 (0434H)
LOCAL TIME 2124 (H)

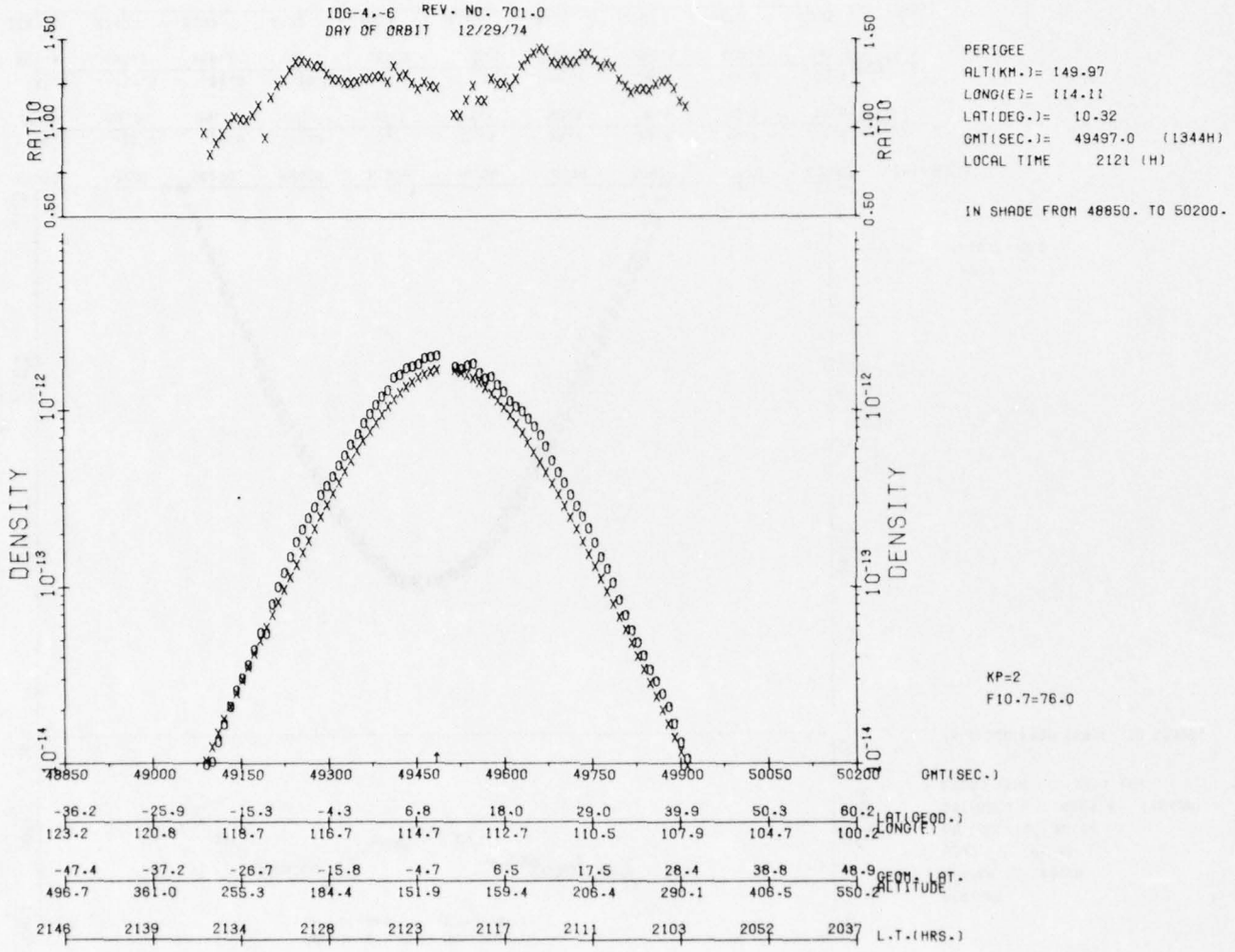
IN SHADE FROM 15850. TO 17200.

KP=3-
F10.7=93.0



PERIGEE
ALT(KM.)= 152.90
LONG(E)= 351.79
LAT(DEG.)= 37.25
GMT(SEC.)= 79142.9 (2159H)
LOCAL TIME 2126 (H)
IN SUN FROM 78520. TO 80400.
IN SHADE FROM 80400. TO 79870.

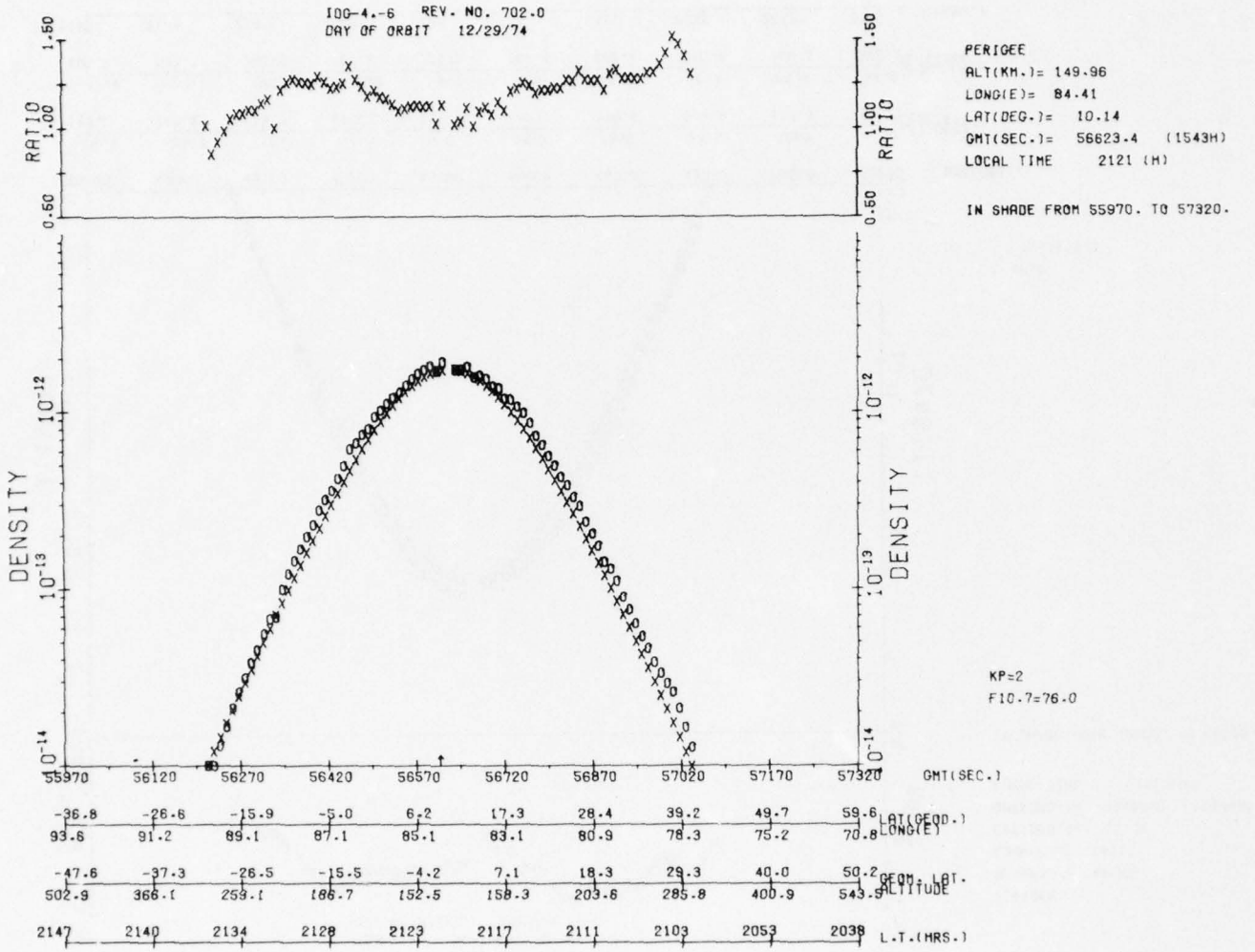
KP=1
F10.7=86.0



PERIGEE
ALT(KM.)= 149.97
LONG(E)= 114.11
LAT(DEG.)= 10.32
GMT(SEC.)= 49497.0 (1344H)
LOCAL TIME 2121 (H)

IN SHADE FROM 48850. TO 50200.

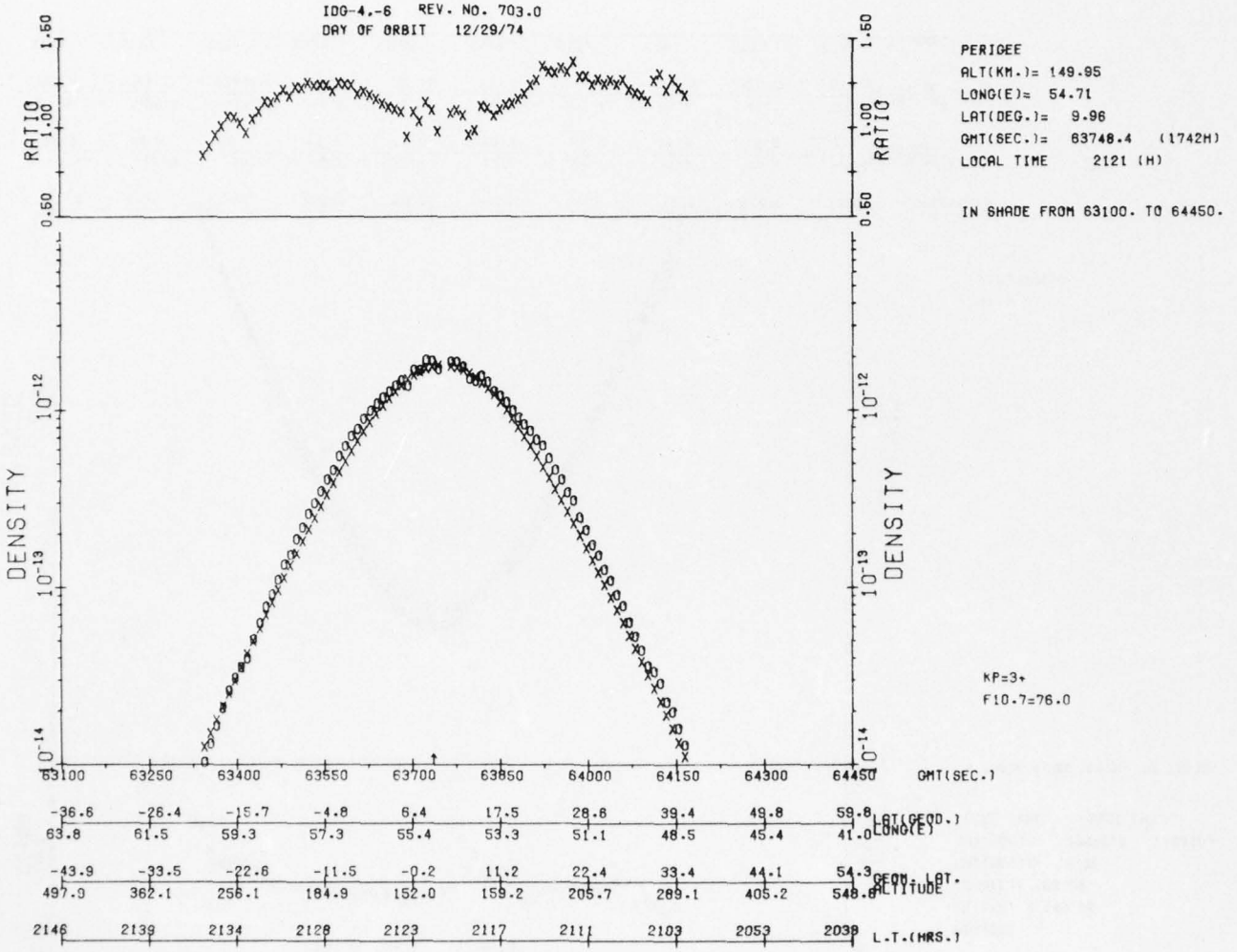
KP=2
F10.7=76.0



PERIGEE
ALT(KM.)= 149.96
LONG(E)= 84.41
LAT(DEG.)= 10.14
GMT(SEC.)= 56623.4 (1543H)
LOCAL TIME 2121 (H)

IN SHADE FROM 55970. TO 57320.

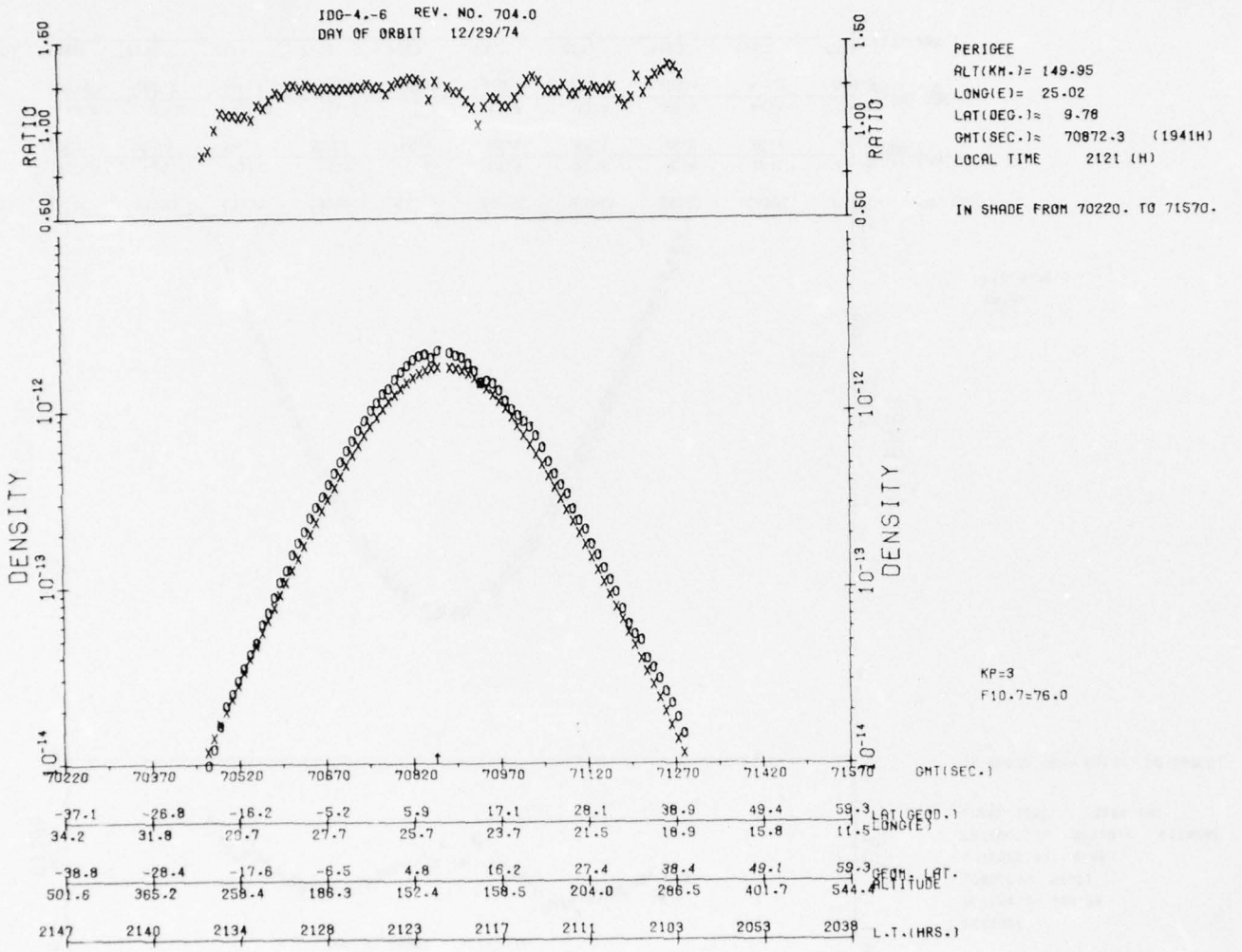
KP=2
F10.7=76.0



PERIGEE
ALT(KM.)= 149.95
LONG(E)= 54.71
LAT(DEG.)= 9.96
GMT(SEC.)= 63748.4 (1742H)
LOCAL TIME 2121 (H)

IN SHADE FROM 63100. TO 64450.

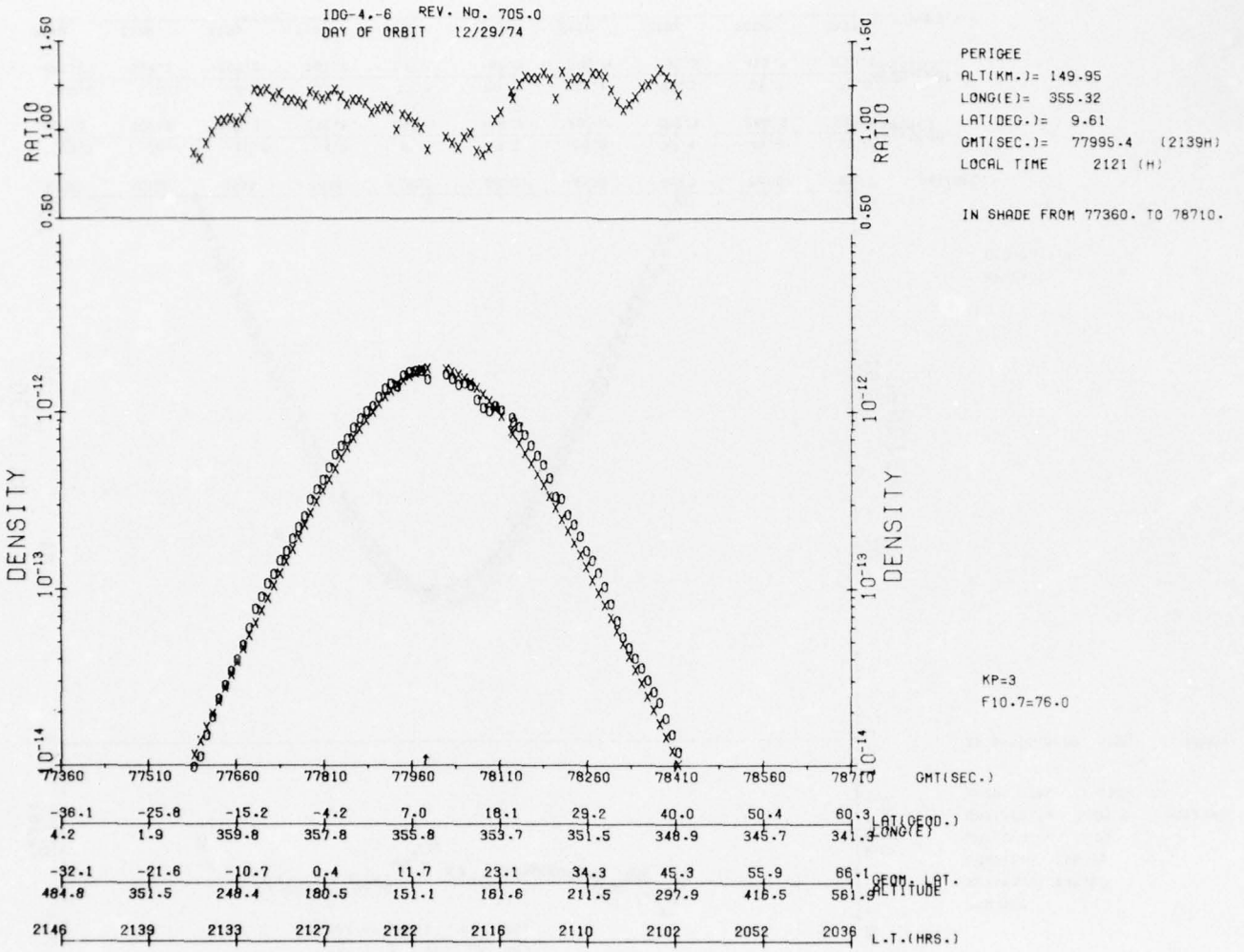
KP=3+
F10.7=76.0



PERIGEE
ALT(KM.)= 149.95
LONG(E)= 25.02
LAT(DEG.)= 9.78
GMT(SEC.)= 70872.3 (1941H)
LOCAL TIME 2121 (H)

IN SHADE FROM 70220. TO 71570.

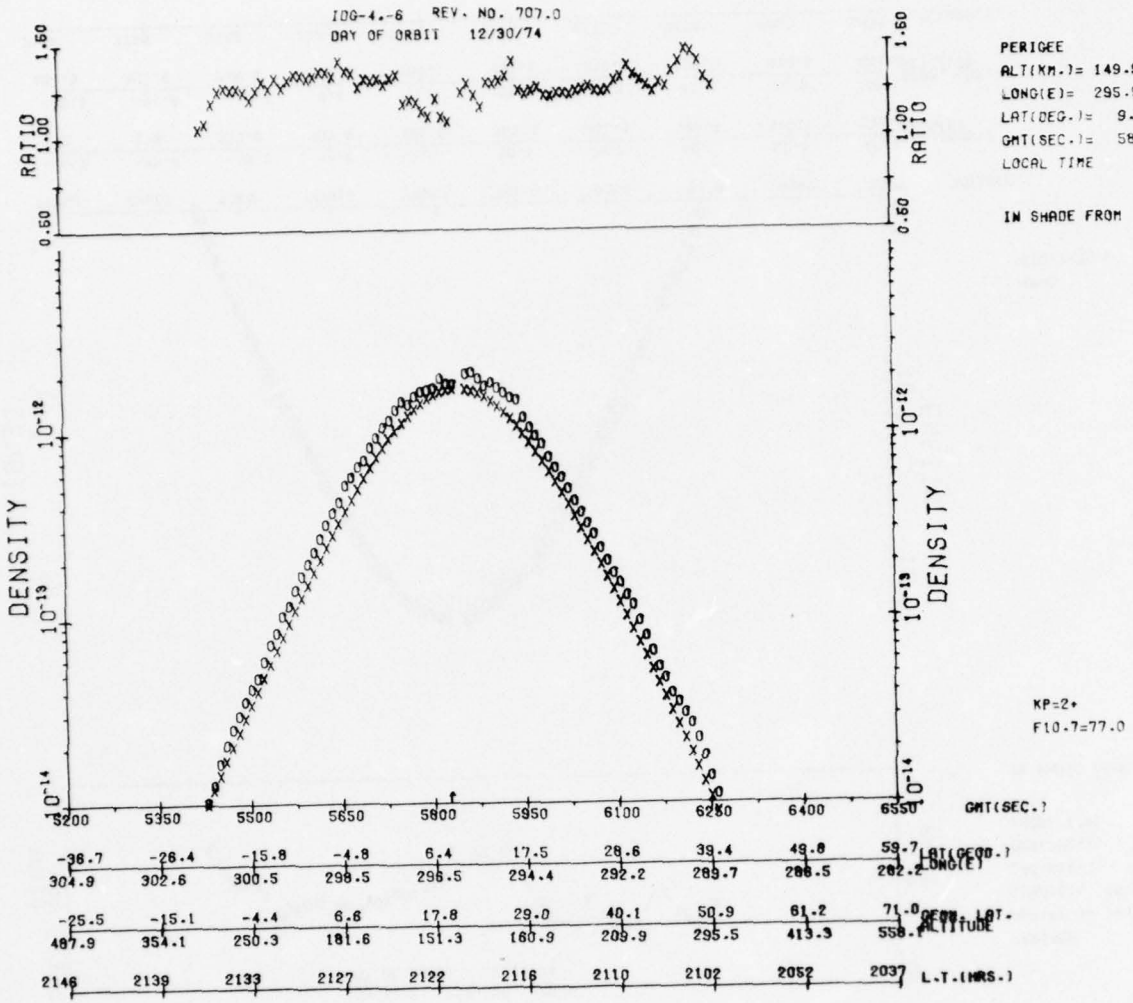
KP=3
F10.7=76.0



PERIGEE
ALT(KM.)= 149.95
LONG(E)= 355.32
LAT(DEG.)= 9.61
GMT(SEC.)= 77995.4 (2139H)
LOCAL TIME 2121 (H)

IN SHADE FROM 77360. TO 78710.

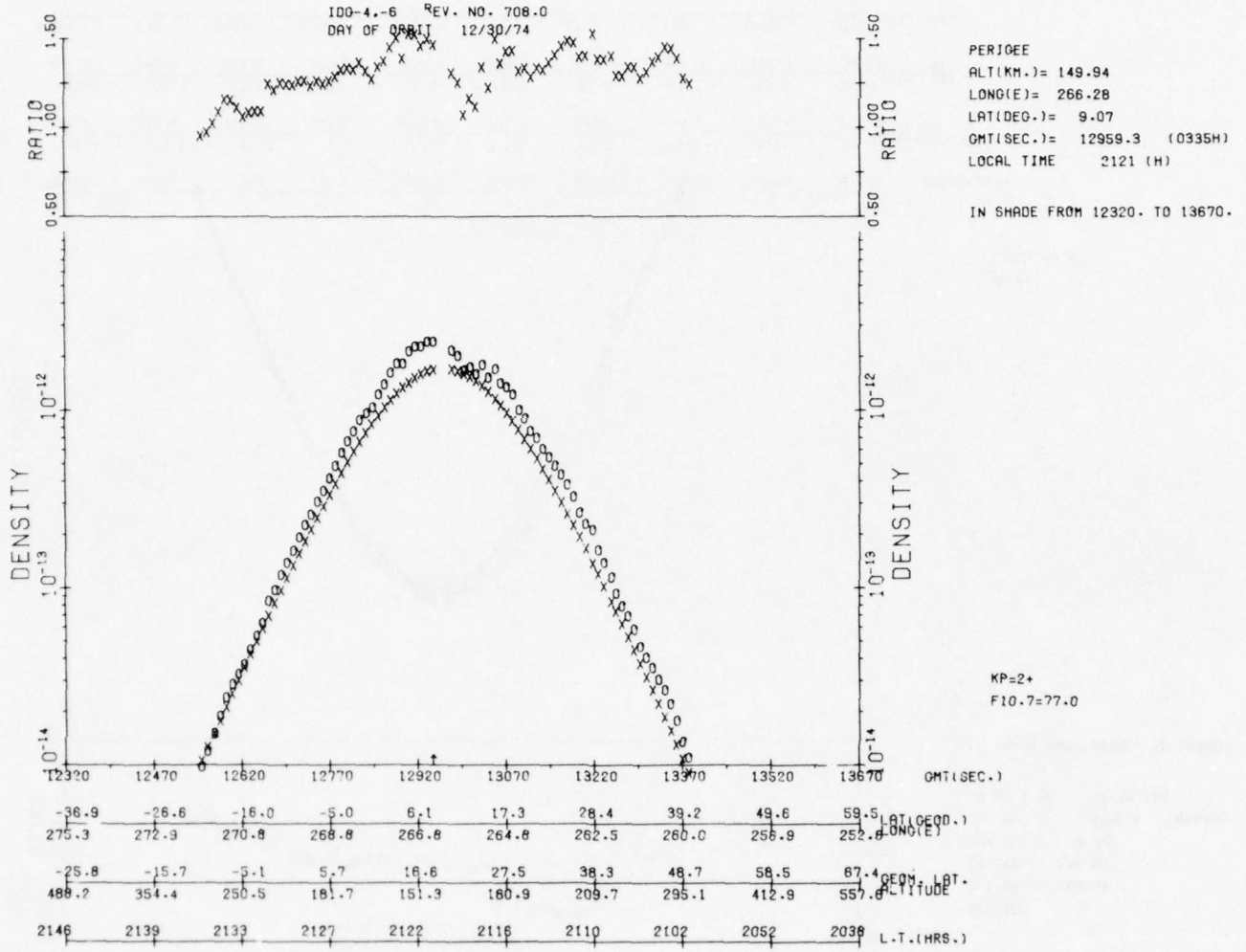
KP=3
F10.7=76.0



PERIGEE
ALT(KM.)= 149.95
LONG(E)= 295.96
LAT(DEG.)= 9.25
GMT(SEC.)= 5838.8 (0137H)
LOCAL TIME 2121 (H)

IN SHADE FROM 5200. TO 6550.

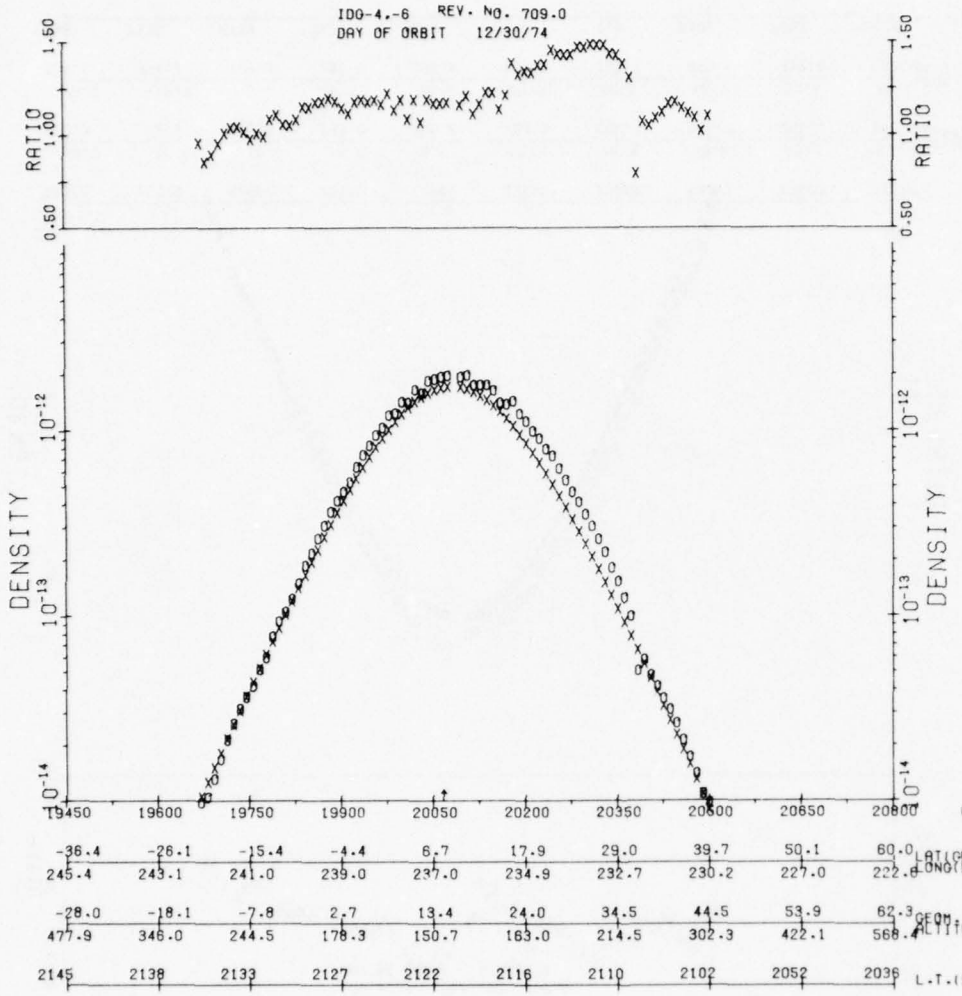
KP=2+
F10.7=77.0



PERIGEE
ALT(KM.)= 149.94
LONG(E)= 266.28
LAT(DEG.)= 9.07
GMT(SEC.)= 12959.3 (0335H)
LOCAL TIME 2121 (H)

IN SHADE FROM 12320. TO 13670.

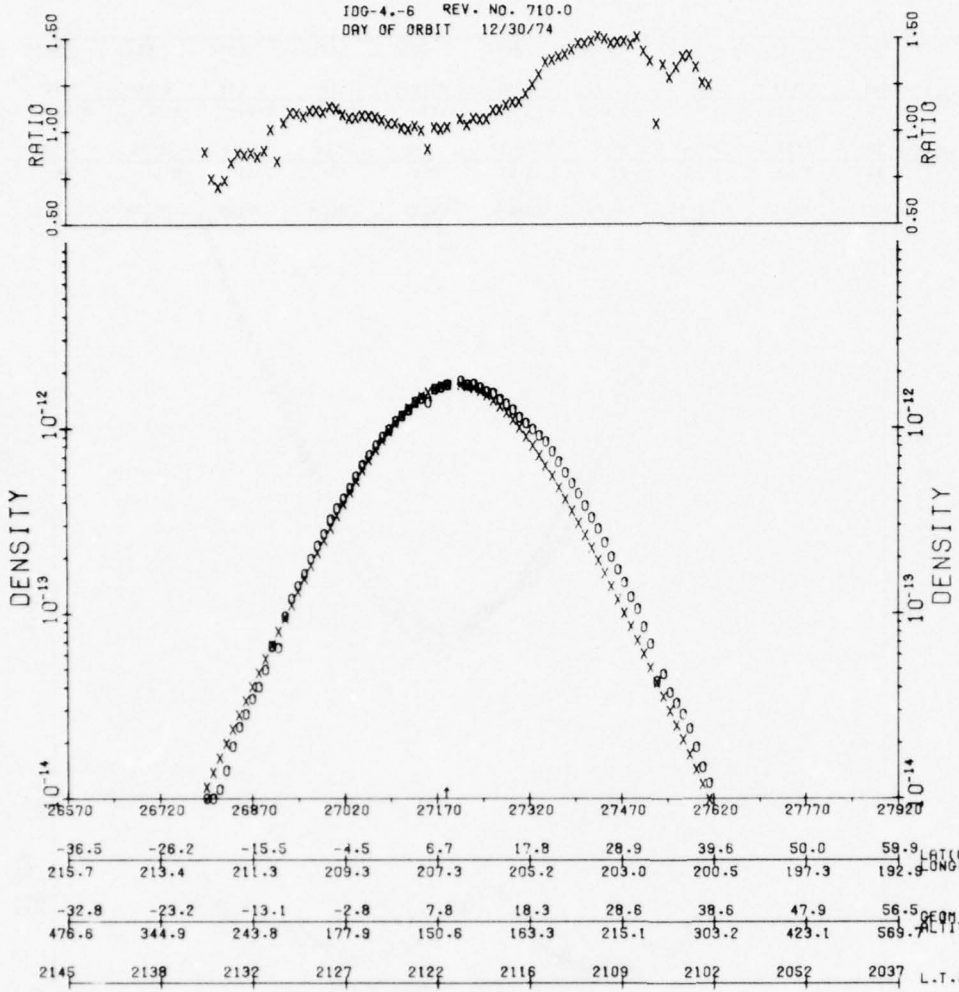
KP=2+
F10.7=77.0



PERIGEE
ALT(KM.)= 149.94
LONG(E)= 236.60
LAT(DEG.)= 8.90
GMT(SEC.)= 20078.9 (0534H)
LOCAL TIME 2121 (H)

IN SHADE FROM 19450. TO 20800.

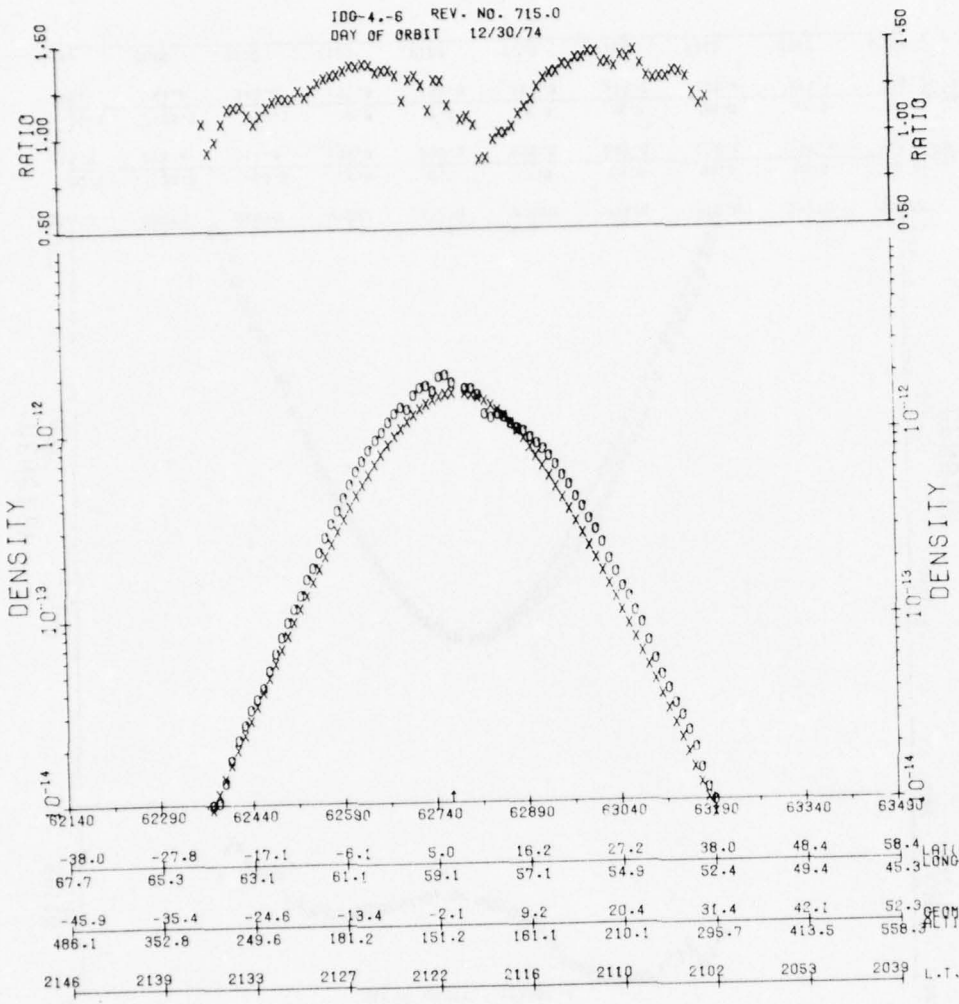
KP=2+
F10.7=77.0



PERIGEE
ALT(KM.)= 149.95
LONG(E)= 206.93
LAT(DEG.)= 8.72
GMT(SEC.)= 27197.5 (0733H)
LOCAL TIME 2120 (H)

IN SHADE FROM 26570. TO 27920.

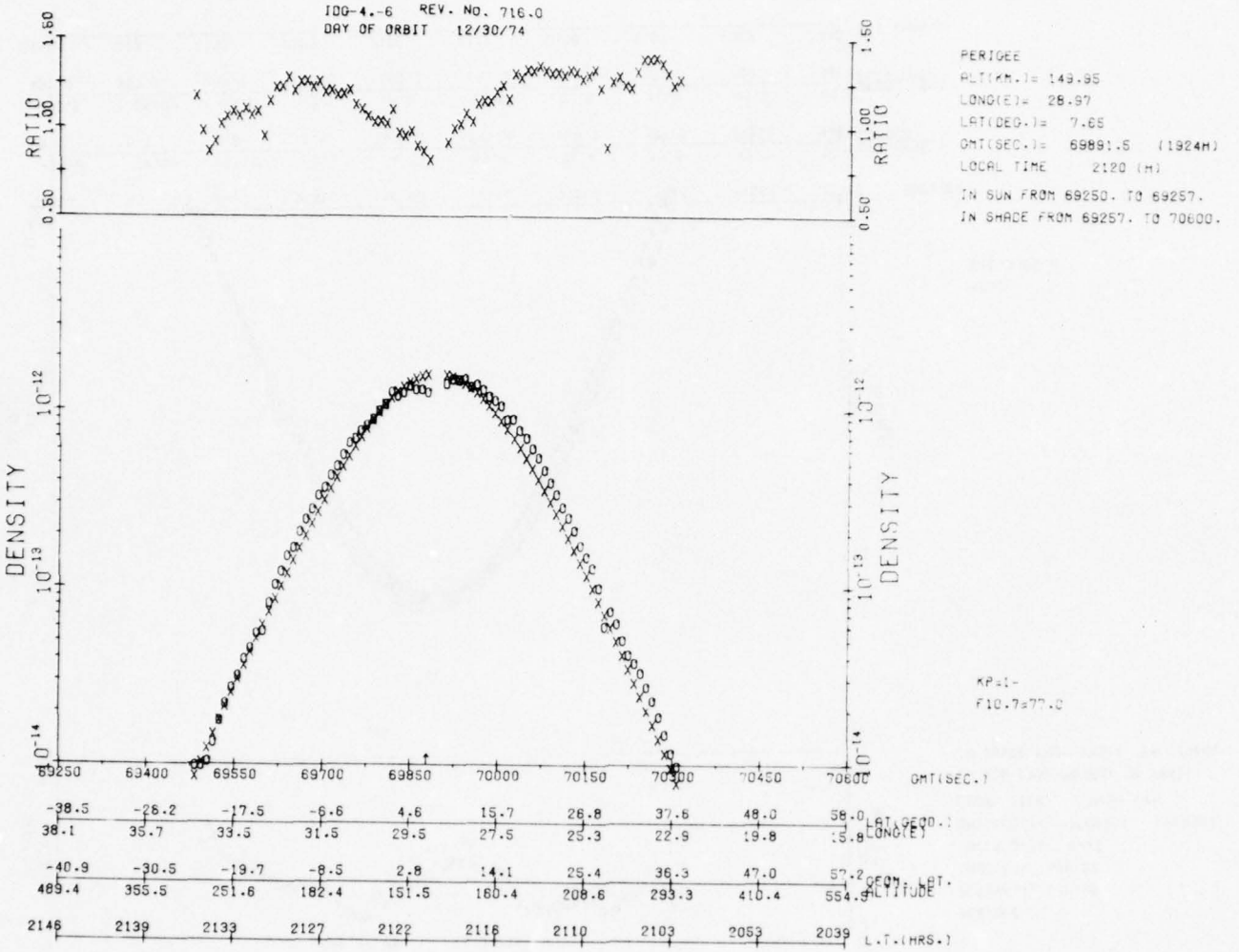
KP=2
F10.7=77.0

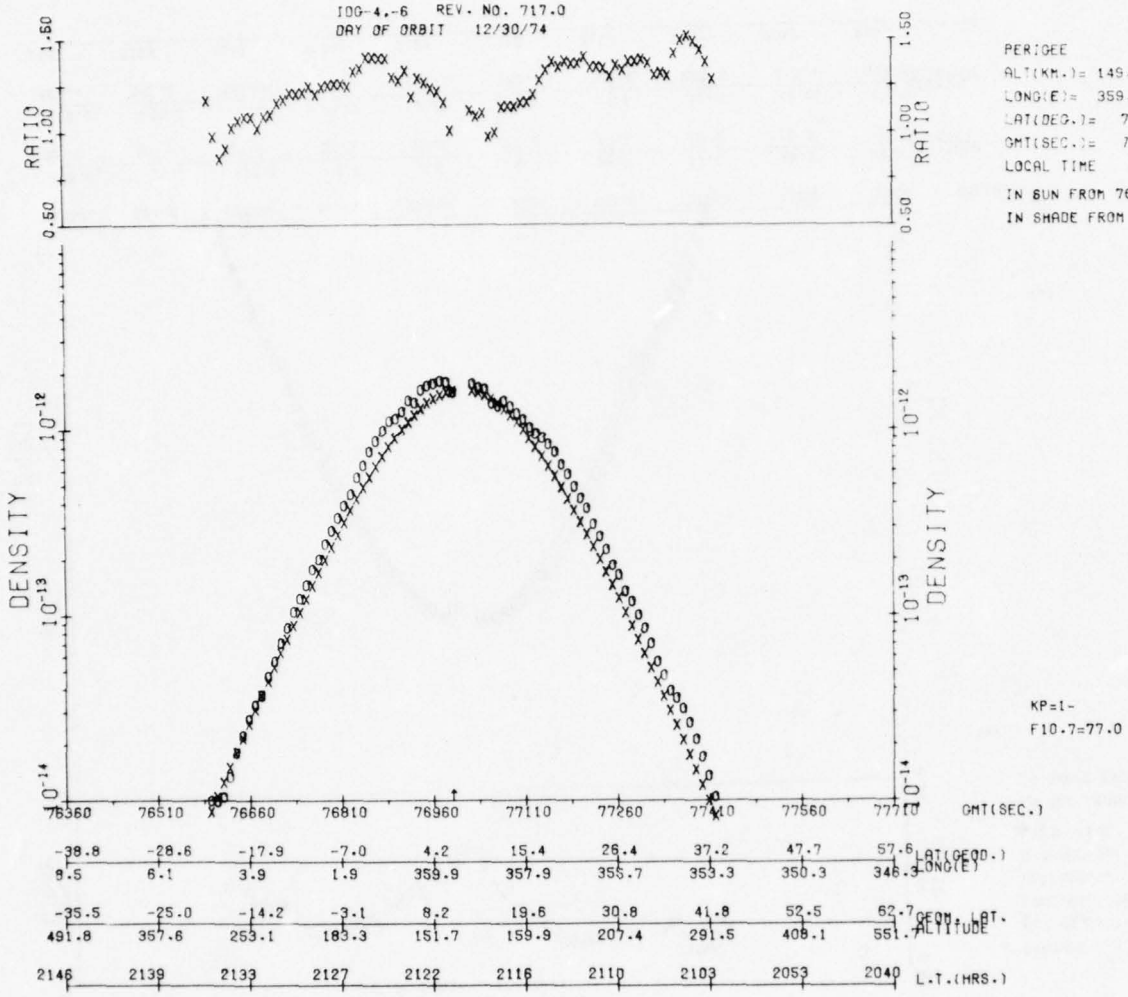


PERIGEE
ALT(KM.)= 149.95
LONG(E)= 58.62
LAT(DEG.)= 7.83
GMT(SEC.)= 62778.0 (1726H)
LOCAL TIME 2120 (H)

IN SUN FROM 62140. TO 62142.
IN SHADE FROM 62142. TO 63490.

KP=1-
F10.7=77.0

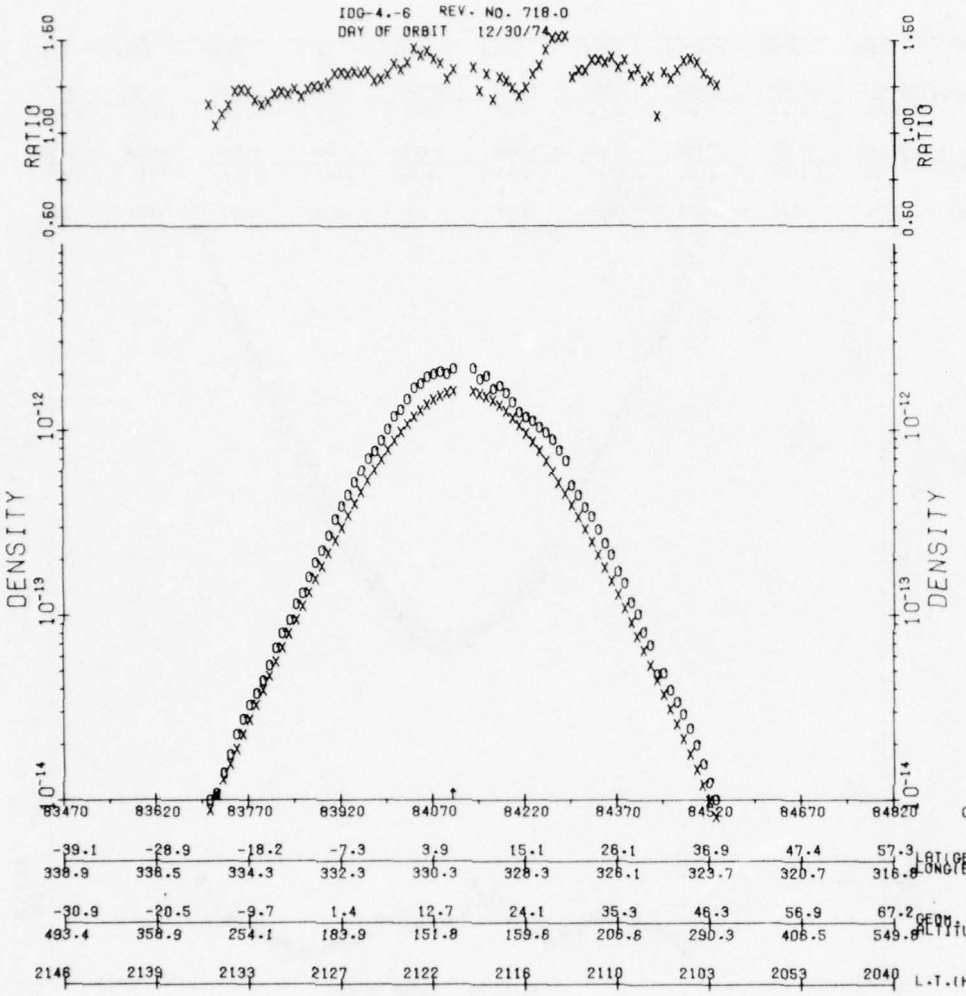

IDG-4.-6 REV. NO. 716.0
DAY OF ORBIT 12/30/74
RATIO
1.60
1.00
0.60
DENSITY
10^{-12}
10^{-13}
10^{-14}
69250
69400
69550
69700
69850
70000
70150
70300
70450
70600
GMT(SEC.)
-38.5
-28.2
-17.5
-6.6
4.6
15.7
26.8
37.6
48.0
58.0
LAT.(DEG.)
38.1
35.7
33.5
31.5
29.5
27.5
25.3
22.9
19.8
15.8
LONG(E)
-40.9
-30.5
-19.7
-8.5
2.8
14.1
25.4
36.3
47.0
57.2
GEOM. LAT.
489.4
355.5
251.6
182.4
151.5
160.4
208.6
293.3
410.4
554.9
ALTITUDE
2146
2139
2133
2127
2122
2116
2110
2103
2053
2039
L.T.(HRS.)
PERIGEE
ALT(KM.)= 149.85
LONG(E)= 28.97
LAT(DEG.)= 7.65
GMT(SEC.)= 69891.5 (1924H)
LOCAL TIME 2120 (H)
IN SUN FROM 69250. TO 69257.
IN SHADE FROM 69257. TO 70600.
KP=1-
F10.7=77.0



PERIGEE
ALT(KM.)= 149.96
LONG(E)= 359.32
LAT(DEG.)= 7.47
GMT(SEC.)= 77004.1 (2123H)
LOCAL TIME 2120 (H)

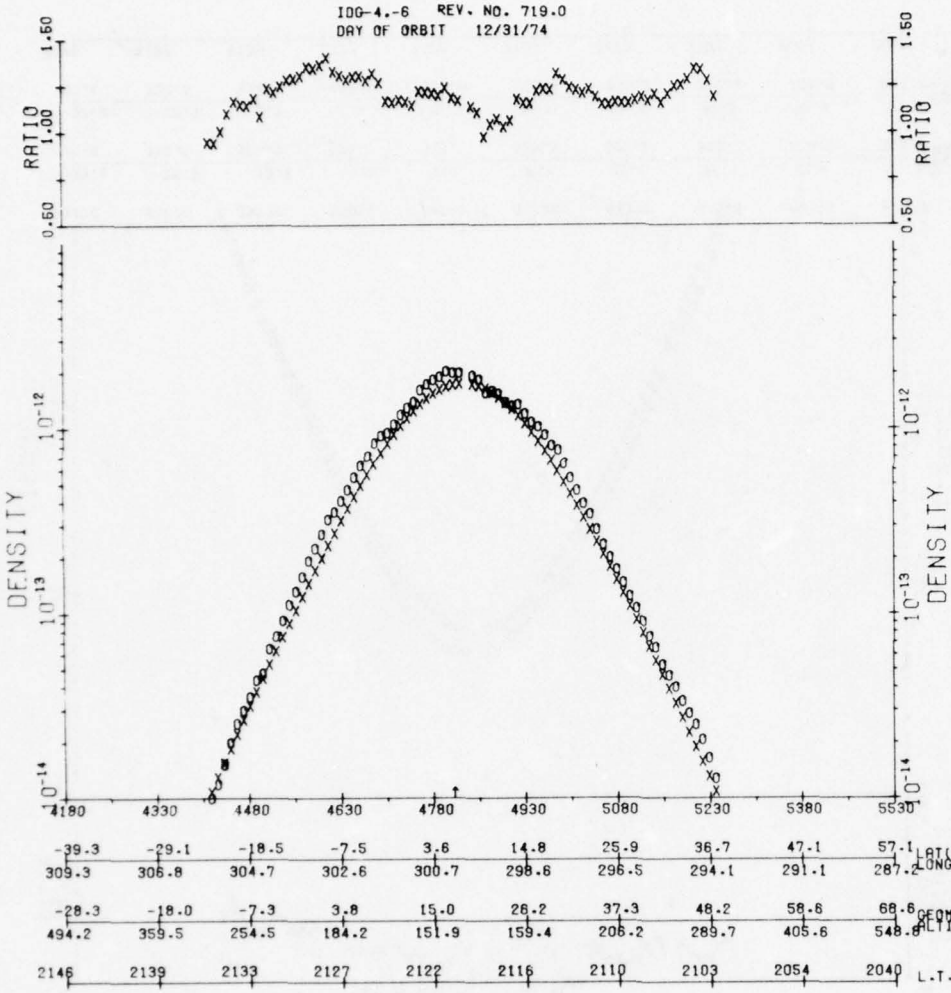
IN SUN FROM 76360. TO 76371.
IN SHADE FROM 76371. TO 77710.

KP=1-
F10.7=77.0



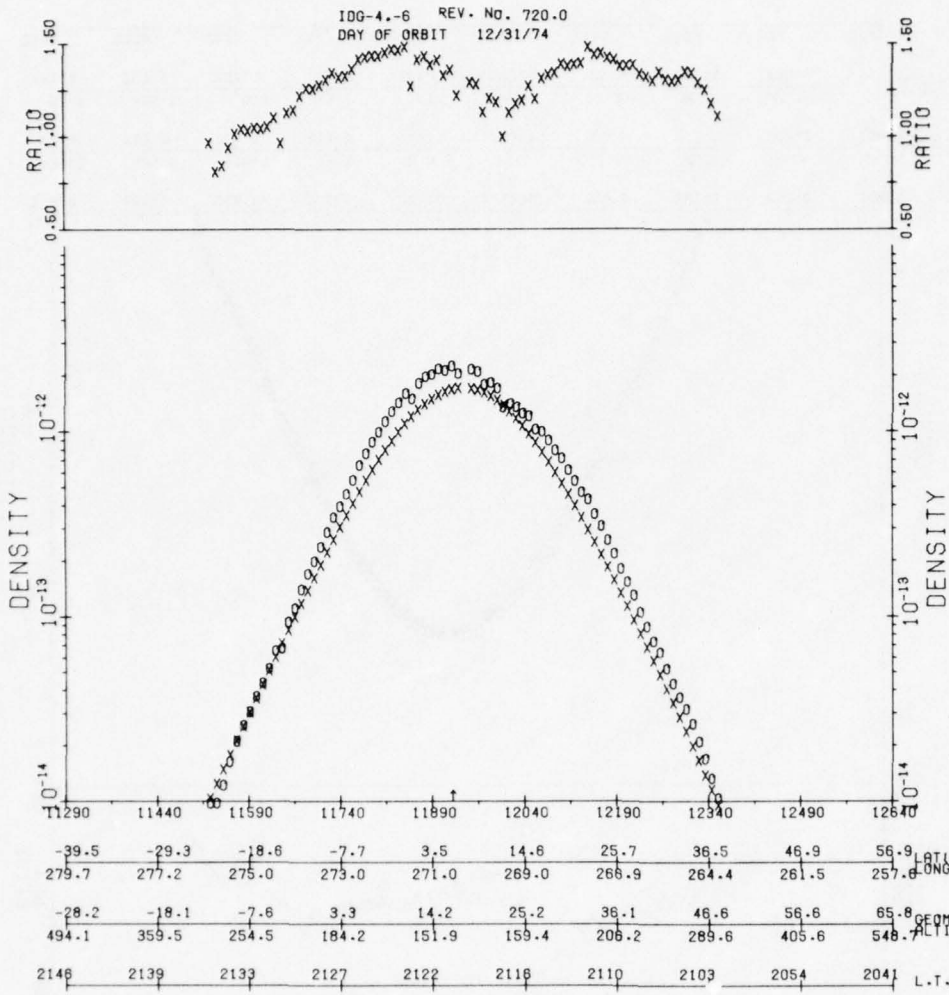
PERIGEE
ALT(KM.)= 149.96
LONG(E)= 329.68
LAT(DEG.)= 7.30
GMT(SEC.)= 84115.9 (2321H)
LOCAL TIME 2120 (H)
IN SUN FROM 83470. TO 83484.
IN SHADE FROM 83484. TO 84820.

KP=1-
F10.7=77.0



PERIGEE
ALT(KM.)= 149.97
LONG(E)= 300.04
LAT(DEG.)= 7.12
GMT(SEC.)= 4826.7 (0120H)
LOCAL TIME 2120 (H)
IN SUN FROM 4180. TO 4203.
IN SHADE FROM 4203. TO 5530.

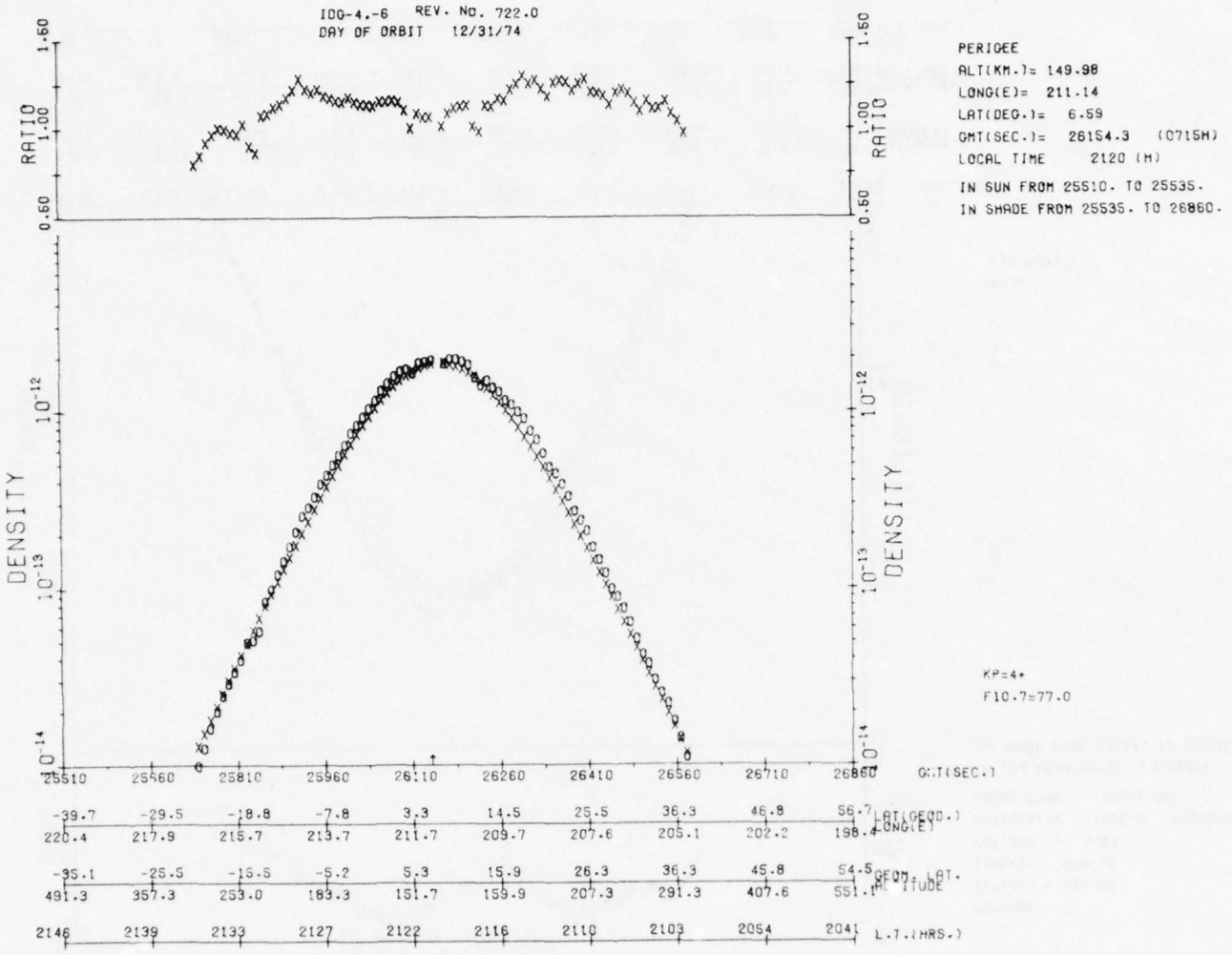
KP=2+
F10.7=77.0

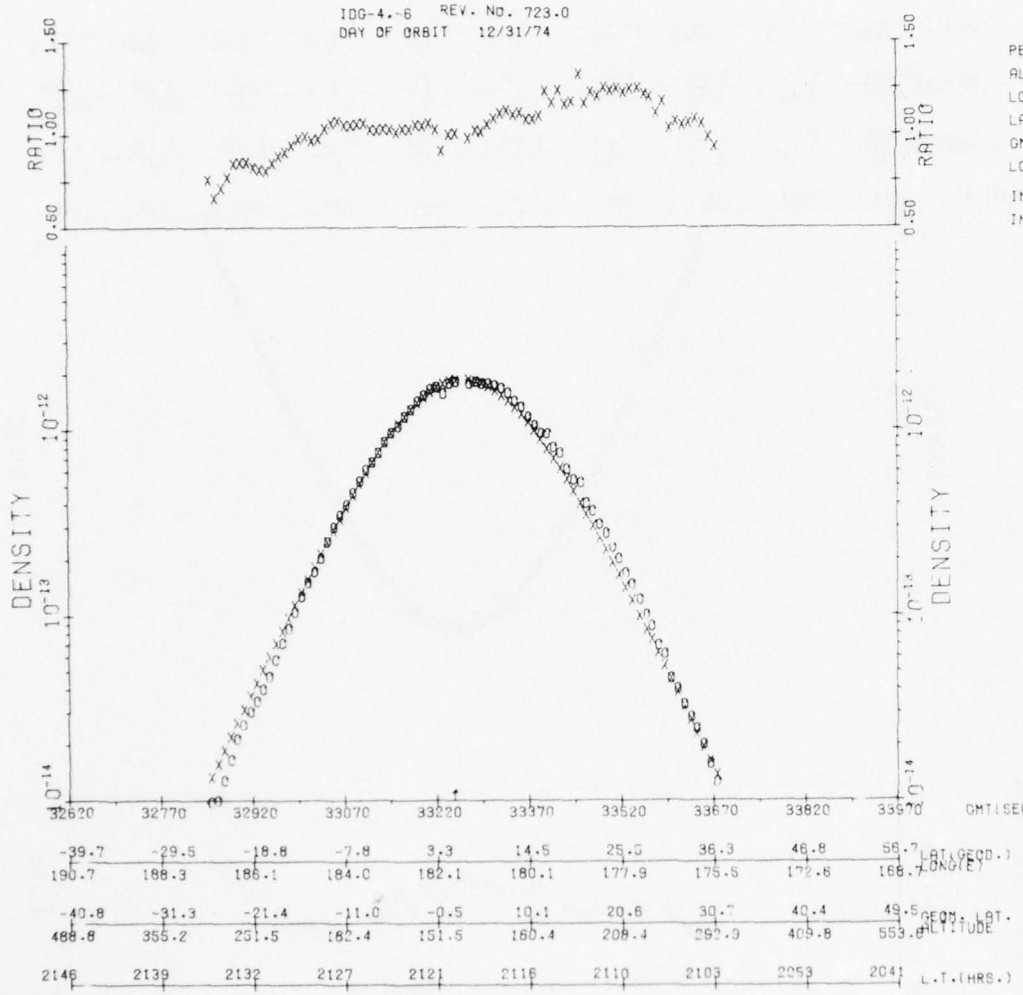


PERIGEE
ALT(KM.)= 149.97
LONG(E)= 270.40
LAT(DEG.)= 6.94
GMT(SEC.)= 11936.8 (0318H)
LOCAL TIME 2120 (H)

IN SUN FROM 11290. TO 11314.
IN SHADE FROM 11314. TO 12640.

KP=2+
F10.7=77.0

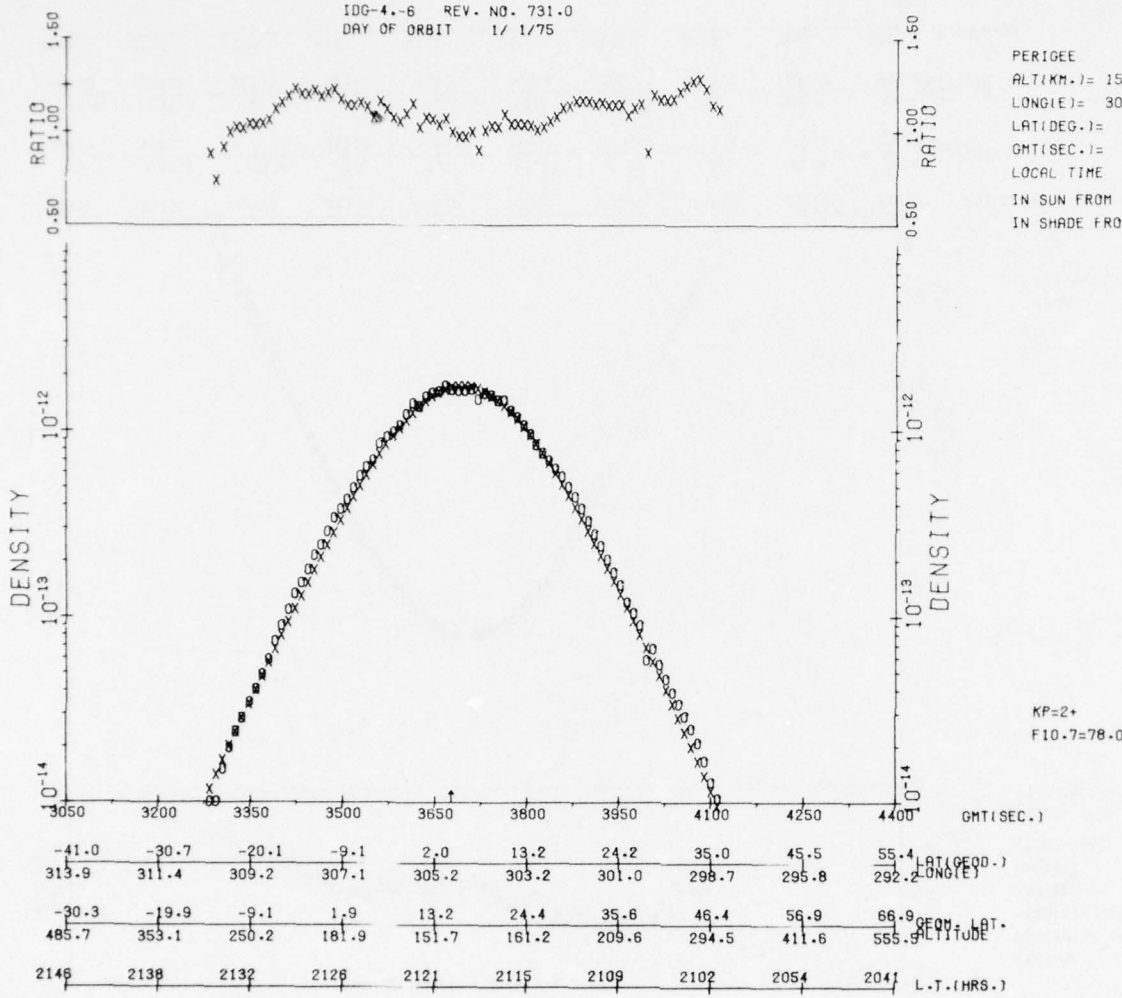

IDG-4.-6 REV. NO. 722.0
DAY OF ORBIT 12/31/74
RATIO
1.60
1.00
0.60
DENSITY
10^{-12}
10^{-13}
10^{-14}
PERIGEE
ALT(KM.)= 149.98
LONG(E)= 211.14
LAT(DEG.)= 6.59
GMT(SEC.)= 26154.3 (0715H)
LOCAL TIME 2120 (H)
IN SUN FROM 25510. TO 25535.
IN SHADE FROM 25535. TO 26860.
KP=4+
F10.7=77.0
25510 25560 25810 25960 26110 26260 26410 26560 26710 26860 GMT(SEC.)
-39.7 -29.5 -18.8 -7.8 3.3 14.5 25.5 36.3 46.8 56.7 LAT(GEOD.)
220.4 217.9 215.7 213.7 211.7 209.7 207.6 205.1 202.2 198.4 LONG(E)
-35.1 -25.5 -15.5 -5.2 5.3 15.9 26.3 36.3 45.8 54.5 GEOM. LAT.
491.3 357.3 253.0 183.3 151.7 159.9 207.3 291.3 407.6 551.1 ALTITUDE
2146 2139 2133 2127 2122 2116 2110 2103 2054 2041 L.T.(HRS.)



PERIGEE
ALT(KM.)= 149.98
LONG(E)= 181.52
LAT(DEG.)= 6.40
GMT(SEC.)= 33261.7 (0914H)
LOCAL TIME 2120 (H)

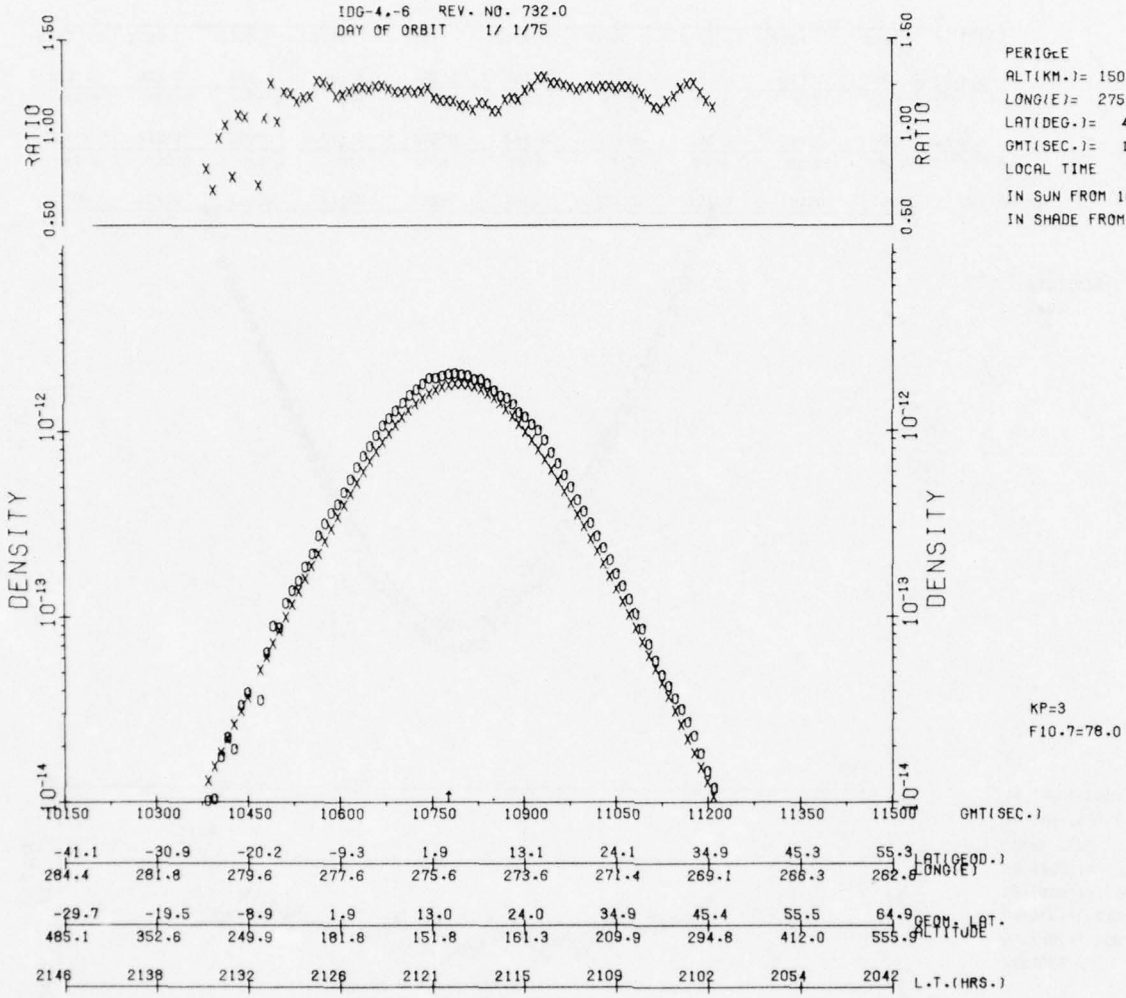
IN SUN FROM 32620. TO 32644.
IN SHADE FROM 32644. TO 33970.

KP=4+
F10.7=77.0



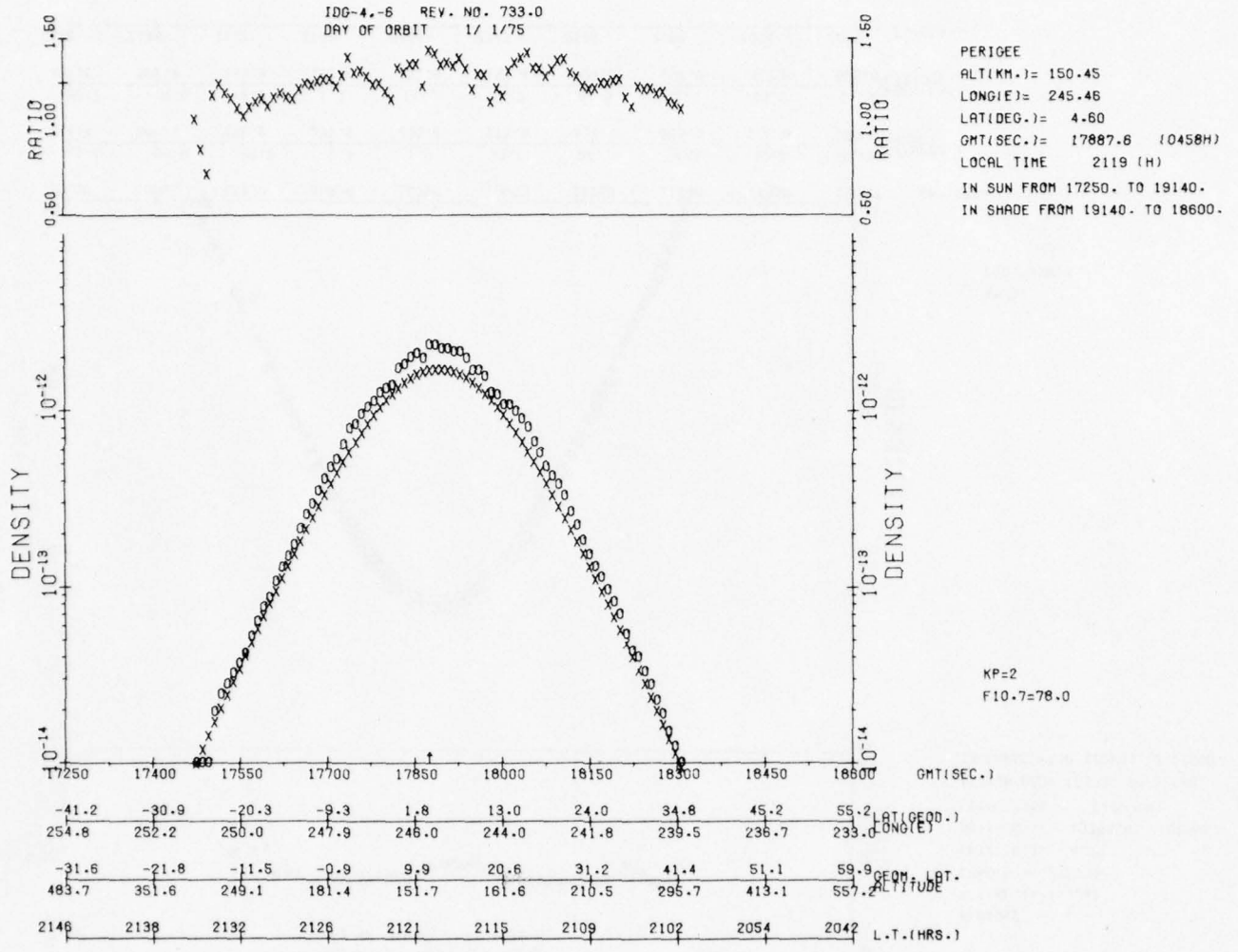
PERIGEE
ALT(KM.)= 150.37
LONG(E)= 304.65
LAT(DEG.)= 4.96
GMT(SEC.)= 3689.4 (0101H)
LOCAL TIME 2120 (H)
IN SUN FROM 3050. TO 4920.
IN SHADE FROM 4920. TO 4400.

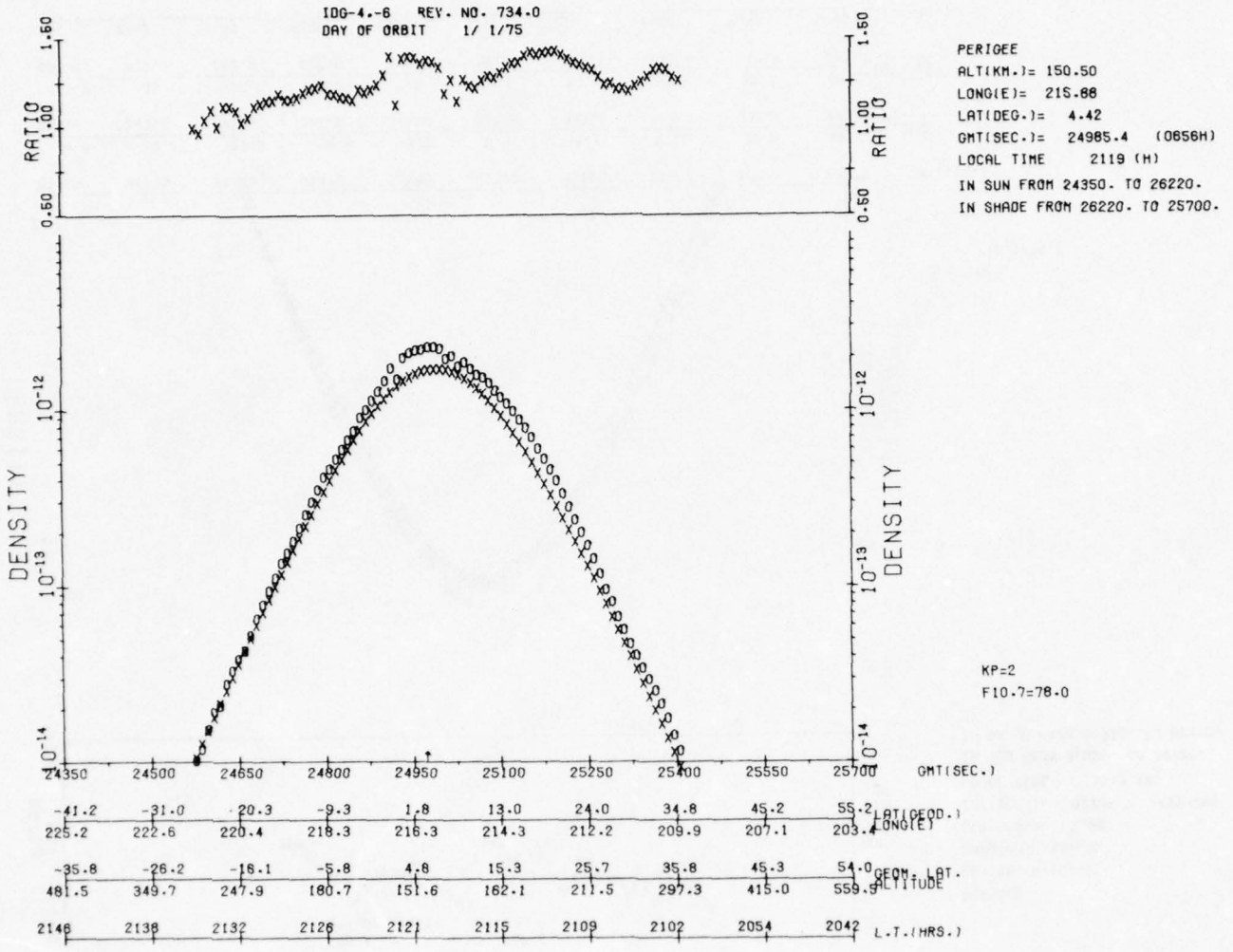
KP=2+
F10.7=78.0



PERIGEE
ALT(KM.)= 150.41
LONG(E)= 275.05
LAT(DEG.)= 4.79
GMT(SEC.)= 10788.9 (0259H)
LOCAL TIME 2120 (H)
IN SUN FROM 10150. TO 12060.
IN SHADE FROM 12060. TO 11500.

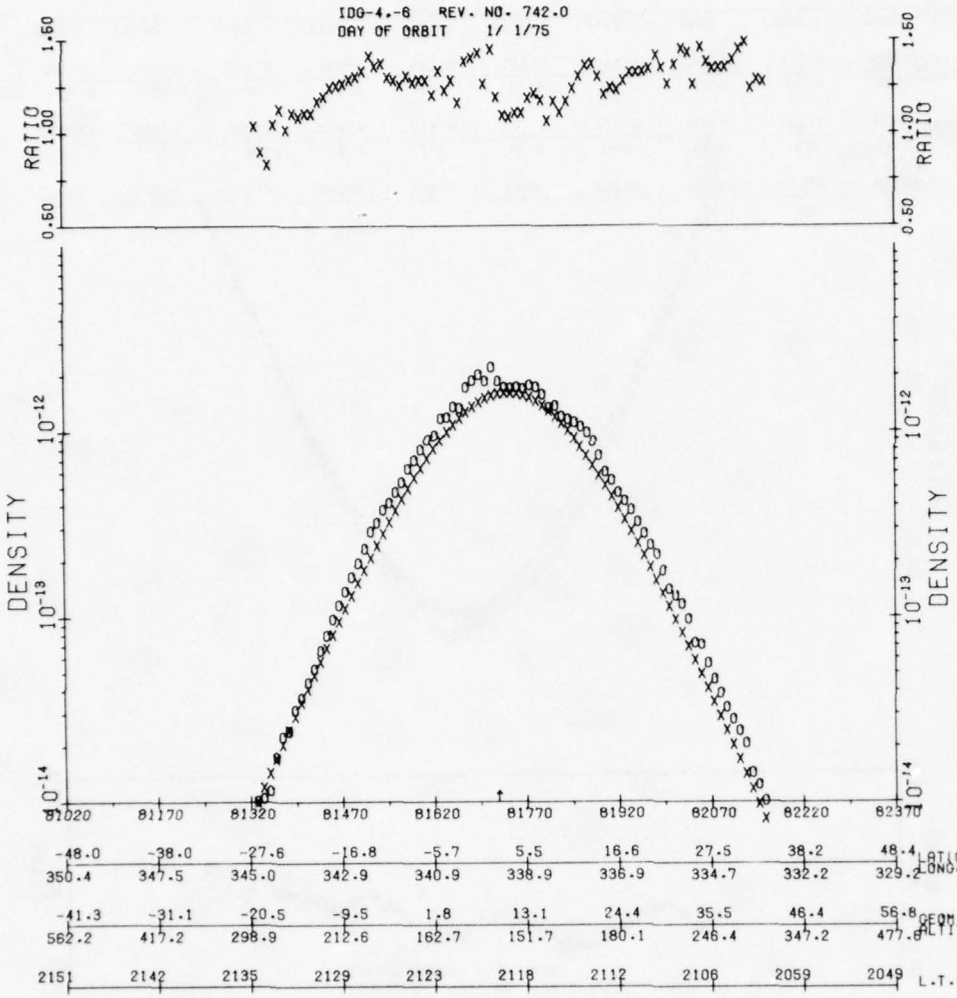
KP=3
F10.7=78.0


IDG-4,-6 REV. NO. 733.0
DAY OF ORBIT 1/ 1/75
RATIO
1.50
1.00
0.50
DENSITY
10^{-12}
10^{-13}
10^{-14}
PERIGEE
ALT(KM.)= 150.45
LONGIE)= 245.46
LAT(DEG.)= 4.60
GMT(SEC.)= 17887.6 (0458H)
LOCAL TIME 2119 (H)
IN SUN FROM 17250. TO 19140.
IN SHADE FROM 19140. TO 18600.
KP=2
F10.7=78.0
17250 17400 17550 17700 17850 18000 18150 18300 18450 18600 GMT(SEC.)
-41.2 -30.9 -20.3 -9.3 1.8 13.0 24.0 34.8 45.2 55.2 LAT(GEOD.)
254.8 252.2 250.0 247.9 246.0 244.0 241.8 239.5 236.7 233.0 LONG(E)
-31.6 -21.8 -11.5 -0.9 9.9 20.6 31.2 41.4 51.1 59.9 GEOM. LAT.
483.7 351.6 249.1 181.4 151.7 161.6 210.5 295.7 413.1 557.2 ALTITUDE
2146 2138 2132 2126 2121 2115 2109 2102 2054 2042 L.T.(HRS.)



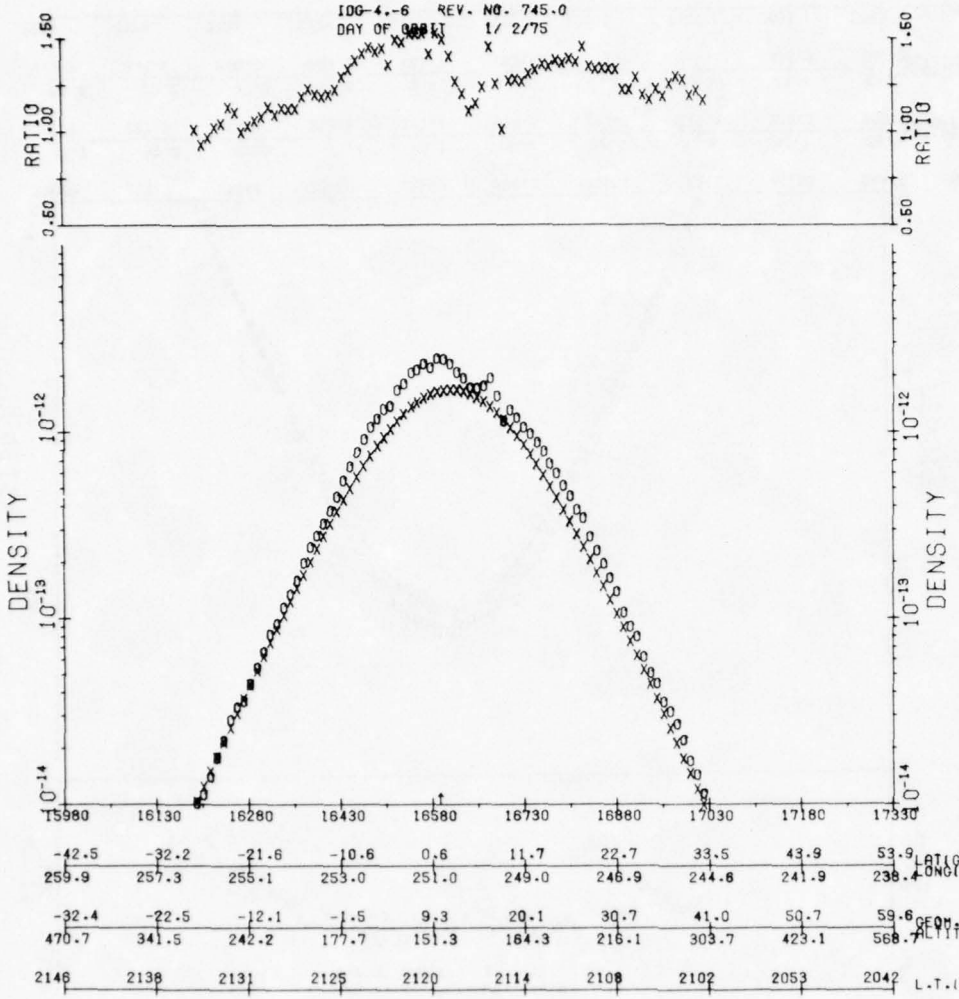
PERIGEE
ALT(KM.)= 150.50
LONG(E)= 215.88
LAT(DEG.)= 4.42
GMT(SEC.)= 24985.4 (0656H)
LOCAL TIME 2119 (H)
IN SUN FROM 24350. TO 26220.
IN SHADE FROM 26220. TO 25700.

KP=2
F10.7=78.0



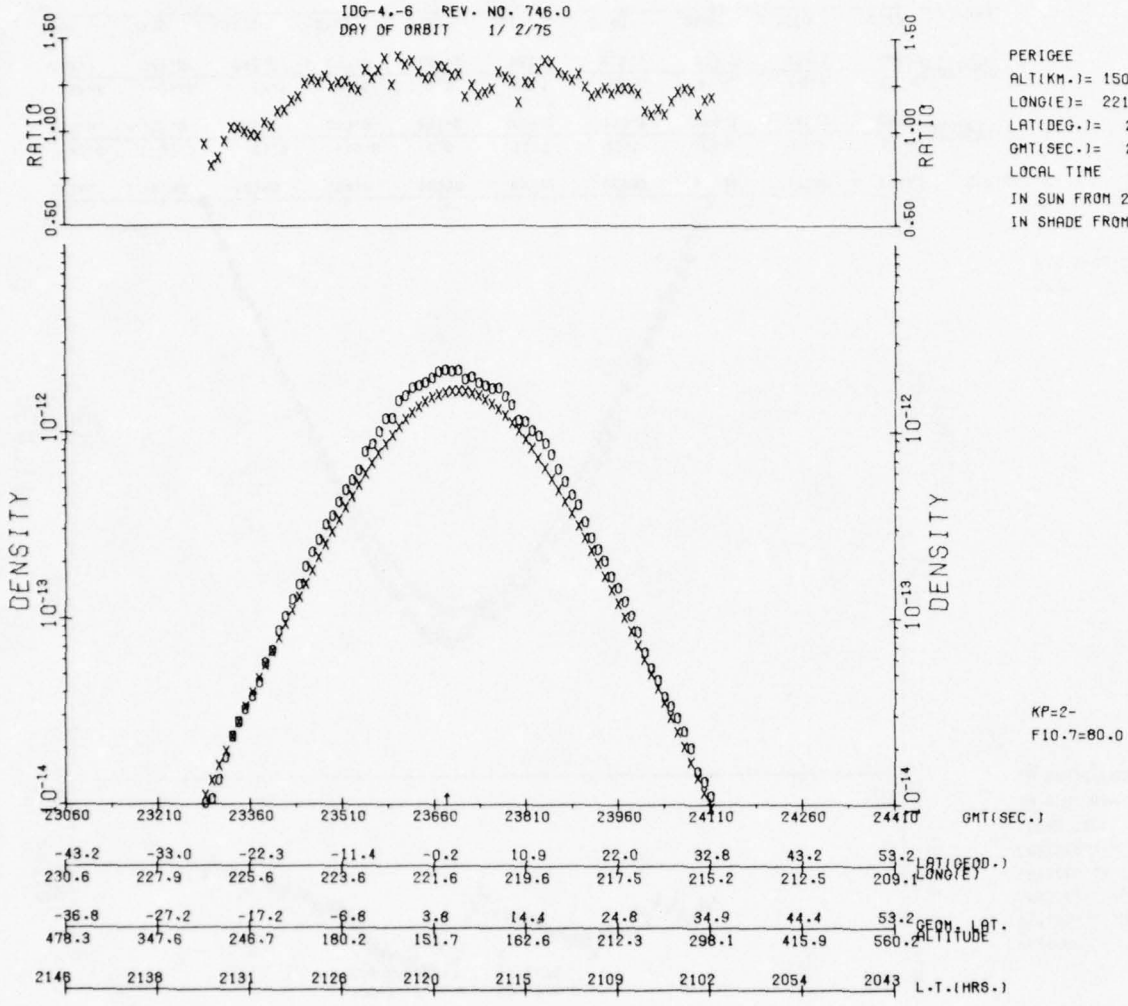
PERIGEE
ALT(KM.)= 150.71
LONG(E)= 339.33
LAT(DEG.)= 2.99
GMT(SEC.)= 81736.7 (2242H)
LOCAL TIME 2119 (H)
IN SUN FROM 81020. TO 84720.
IN SHADE FROM 84720. TO 82370.

KP=1
F10.7=78.0



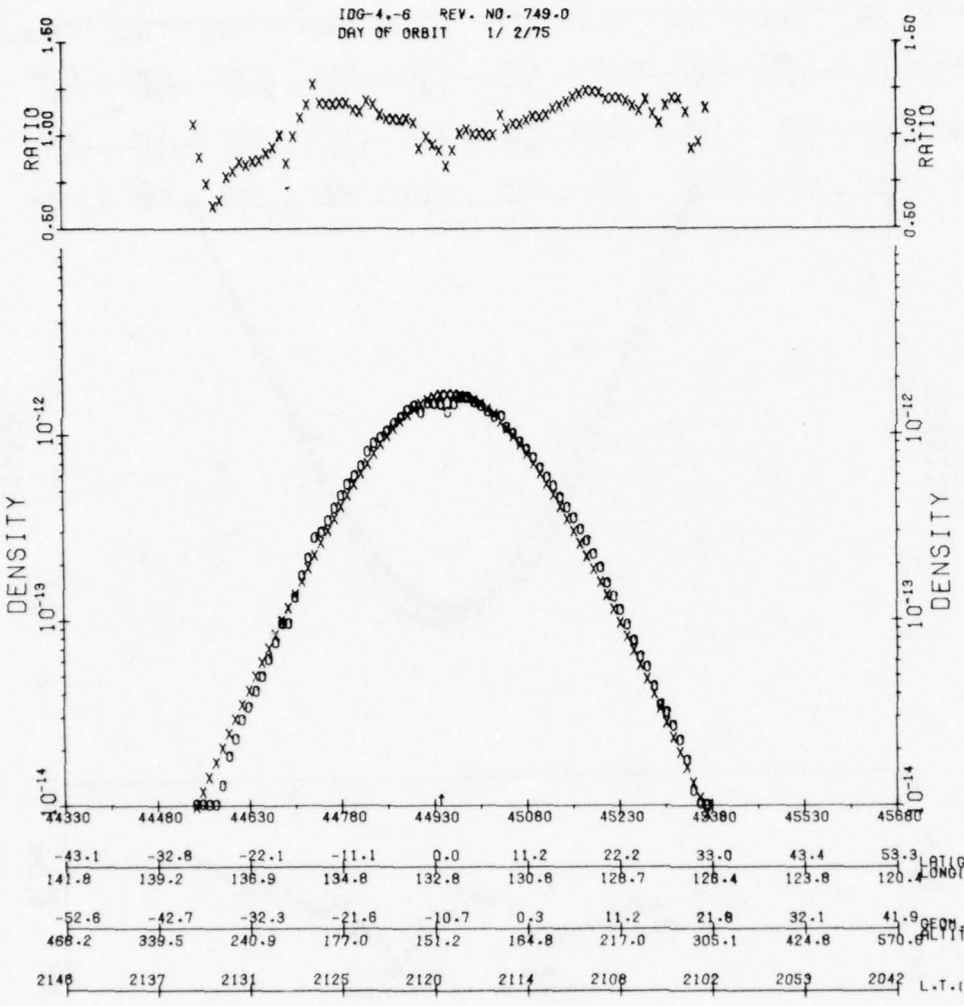
PERIGEE
ALT(KM.)= 150.70
LONG(E)= 250.67
LAT(DEG.)= 2.46
GMT(SEC.)= 16805.6 (0436H)
LOCAL TIME 2119 (H)
IN SUN FROM 15980. TO 17880.
IN SHADE FROM 17880. TO 17330.

KP=2-
F10.7=80.0



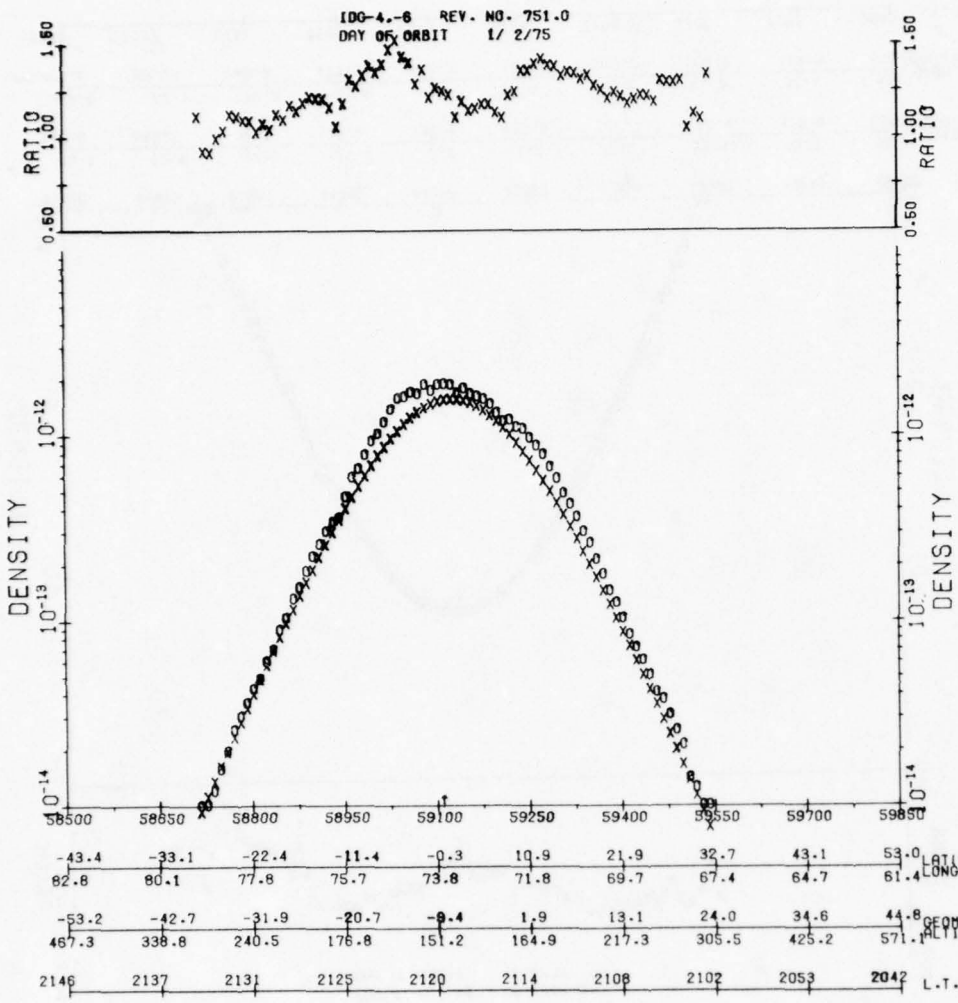
PERIGEE
ALT(KM.)= 150.70
LONG(E)= 221.13
LAT(DEG.)= 2.28
GMT(SEC.)= 23693.7 (0634H)
LOCAL TIME 2119 (H)
IN SUN FROM 23060. TO 24960.
IN SHADE FROM 24960. TO 24410.

KP=2-
F10.7=80.0



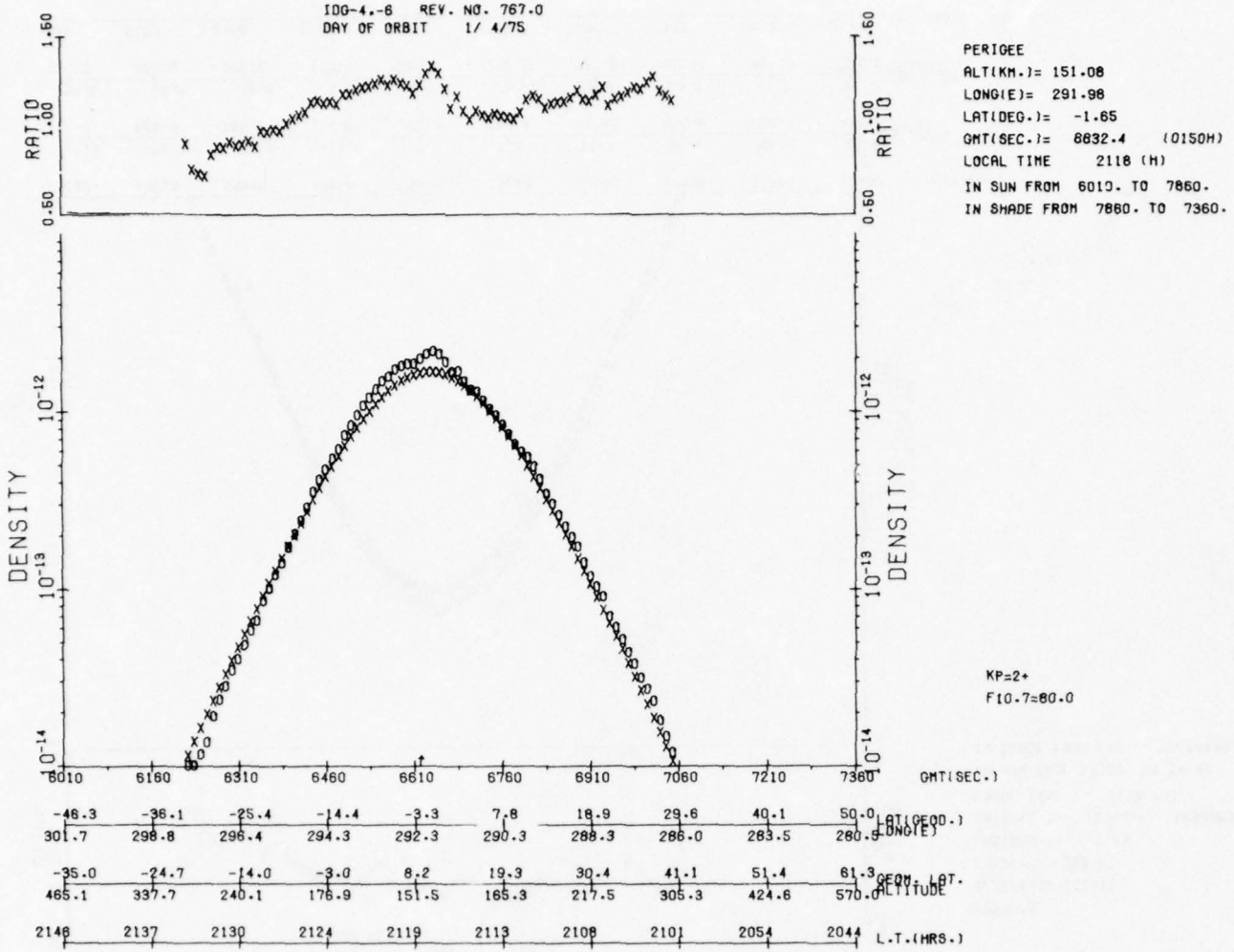
PERIGEE
ALT(KM.)= 150.70
LONG(E)= 132.51
LAT(DEG.)= 1.74
GMT(SEC.)= 44953.3 (1229H)
LOCAL TIME 2119 (H)
IN SUN FROM 44330. TO 46200.
IN SHADE FROM 46200. TO 45680.

KP=1+
F10.7=80.0



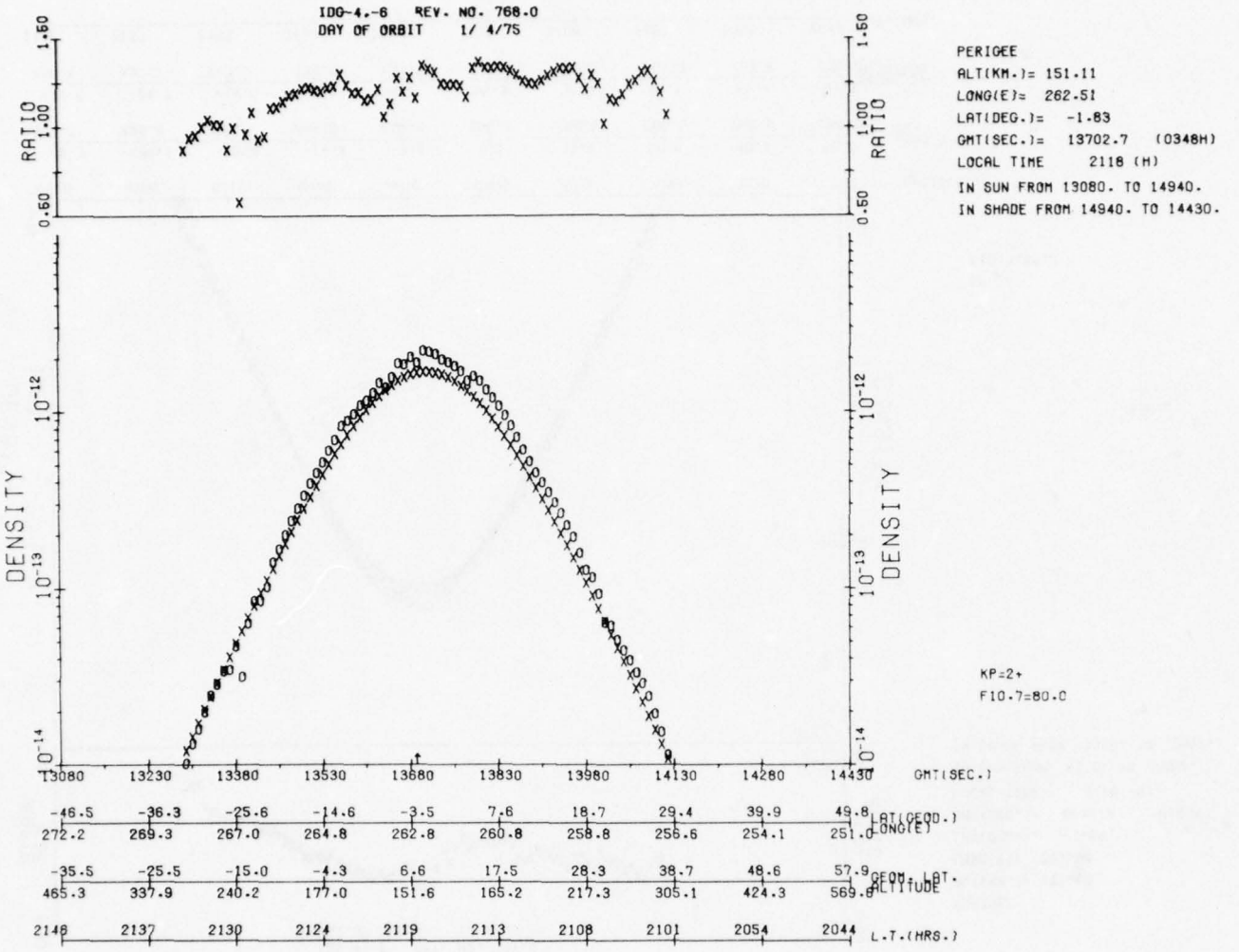
PERIGEE
ALT(KM.)= 150.70
LONG(E)= 73.45
LAT(DEG.)= 1.38
GMT(SEC.)= 59122.7 (1625H)
LOCAL TIME 2119 (H)
IN SUN FROM 58500. TO 60360.
IN SHADE FROM 60360. TO 59850.

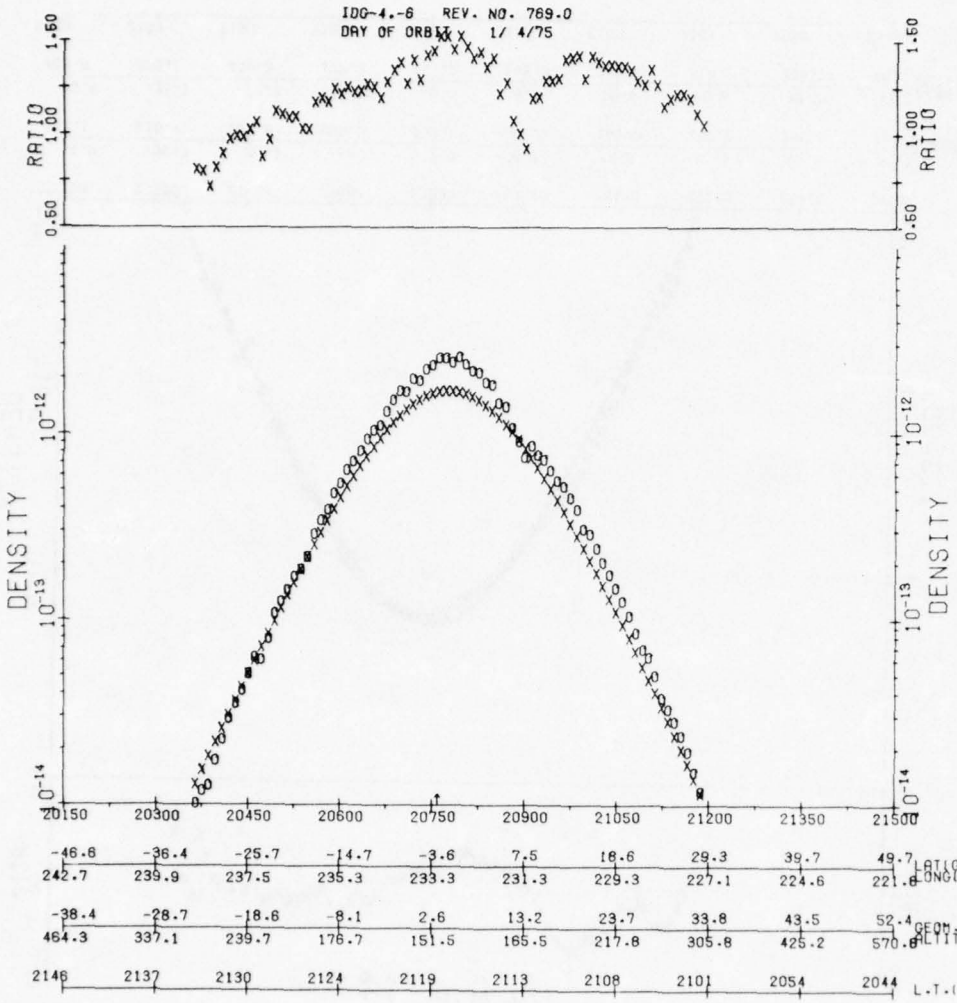
KP=0+
F10.7=80.0



PERIGEE
ALT(KM.)= 151.08
LONG(E)= 291.98
LAT(DEG.)= -1.65
GMT(SEC.)= 6832.4 (0150H)
LOCAL TIME 2118 (H)
IN SUN FROM 6010. TO 7860.
IN SHADE FROM 7860. TO 7360.

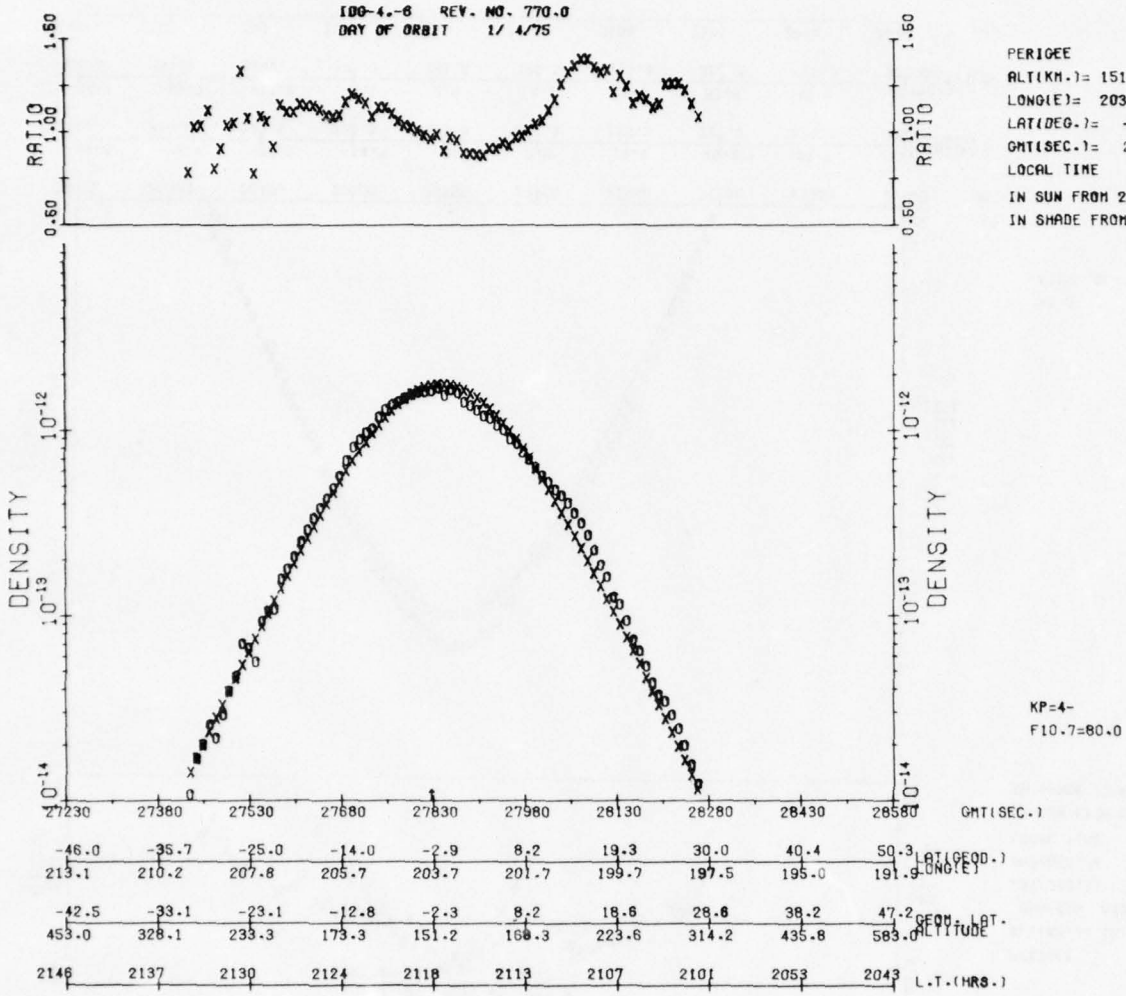
KP=2+
F10.7=80.0


IDG-4.-6 REV. NO. 768.0
DAY OF ORBIT 1/ 4/75
RATIO
1.60
1.00
0.60
DENSITY
10-12
10-13
10-14
PERIGEE
ALT(KM.)= 151.11
LONG(E)= 262.51
LAT(DEG.)= -1.83
GMT(SEC.)= 13702.7 (0348H)
LOCAL TIME 2118 (H)
IN SUN FROM 13080. TO 14940.
IN SHADE FROM 14940. TO 14430.
KP=2+
F10.7=80.0
13080 13230 13380 13530 13680 13830 13980 14130 14280 14430 GMT(SEC.)
-46.5 -36.3 -25.6 -14.6 -3.5 7.6 18.7 29.4 39.9 49.8 LAT(GEOD.)
272.2 269.3 267.0 264.8 262.8 260.8 258.8 256.6 254.1 251.0 LONG(E)
-35.5 -25.5 -15.0 -4.3 6.6 17.5 28.3 38.7 48.6 57.9 GEOM. LAT.
465.3 337.9 240.2 177.0 151.6 165.2 217.3 305.1 424.3 569.8 ALTITUDE
2148 2137 2130 2124 2119 2113 2108 2101 2054 2044 L.T.(HRS.)



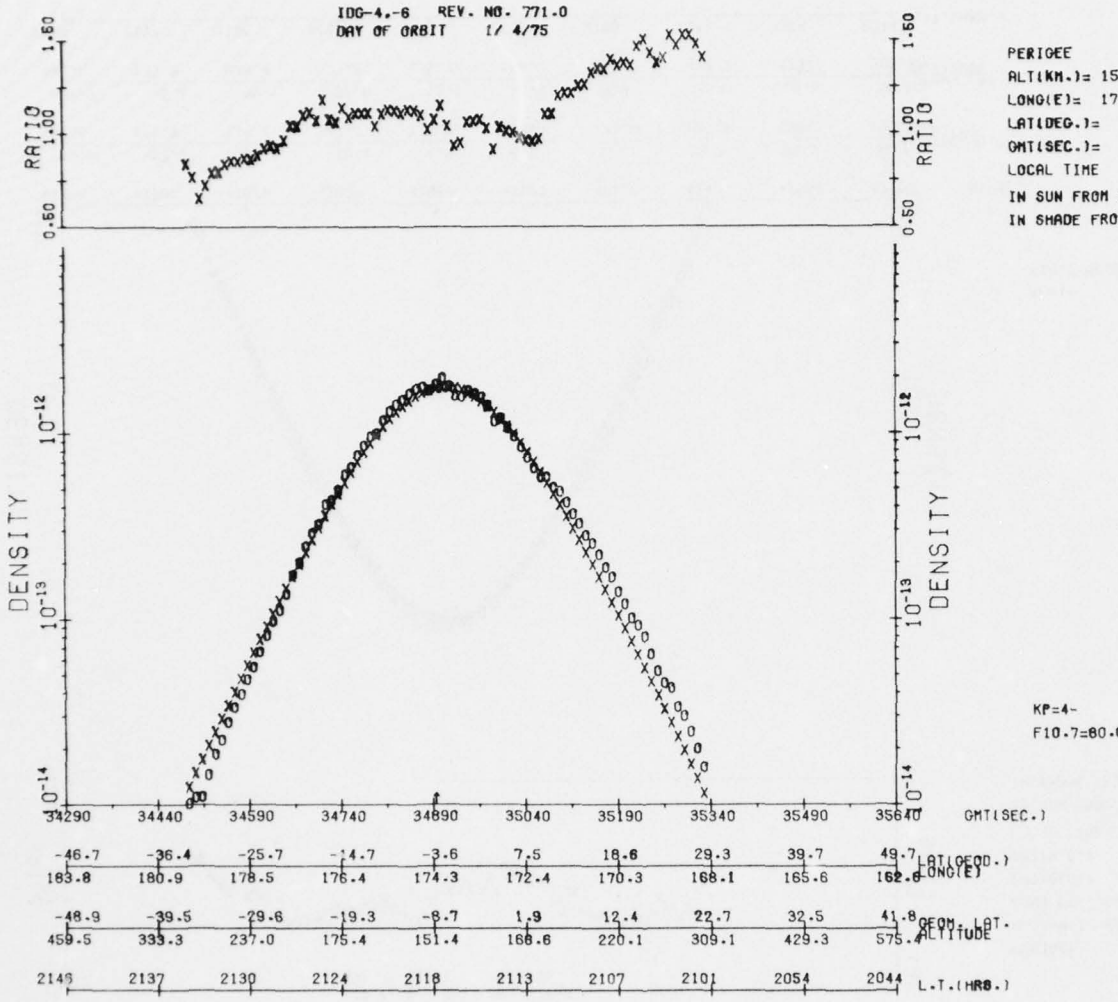
PERIGEE
ALT(KM.)= 151.13
LONG(E)= 233.04
LAT(DEG.)= -2.01
GMT(SEC.)= 20771.7 (0546H)
LOCAL TIME 2118 (H)
IN SUN FROM 20150. TO 22020.
IN SHADE FROM 22020. TO 21500.

KP=3-
F10.7=80.0



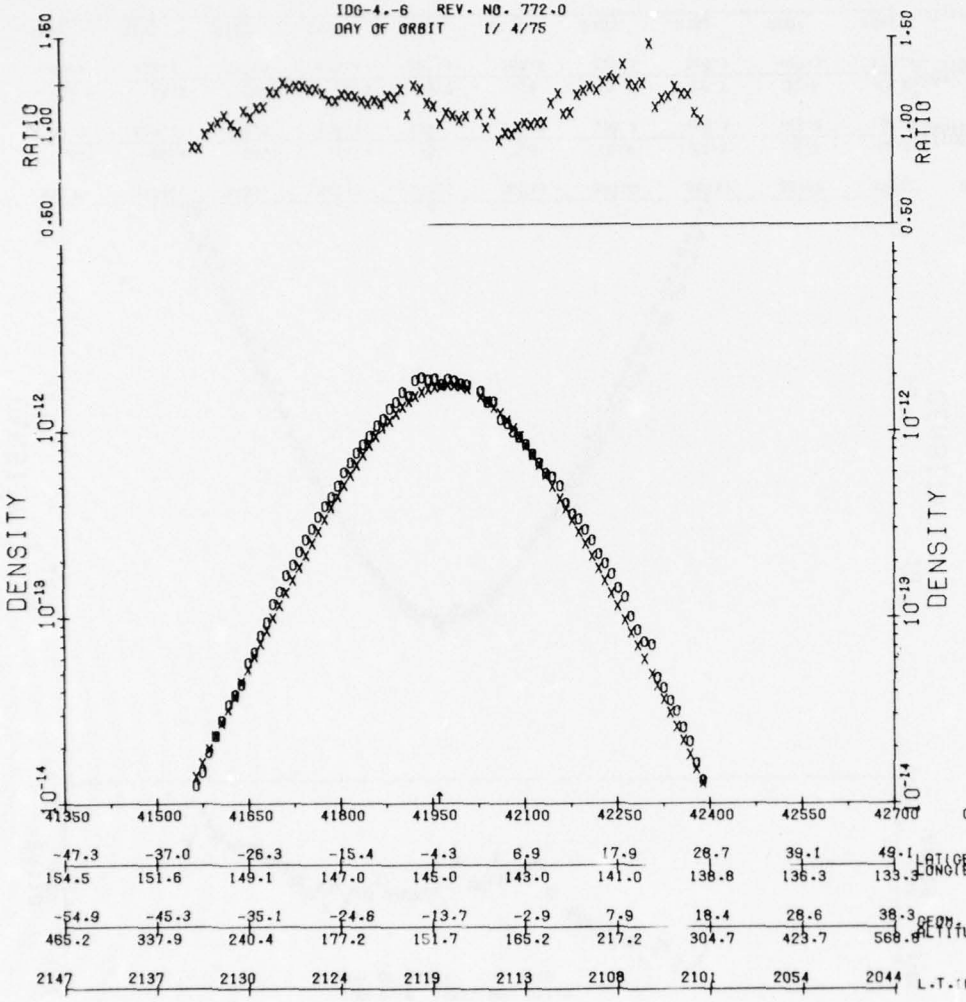
PERIGEE
ALT(KM.)= 151.16
LONG(E)= 203.58
LAT(DEG.)= -2.19
GMT(SEC.)= 27839.7 (0743H)
LOCAL TIME 2118 (H)
IN SUN FROM 27230. TO 29100.
IN SHADE FROM 29100. TO 28580.

KP=4-
F10.7=80.0



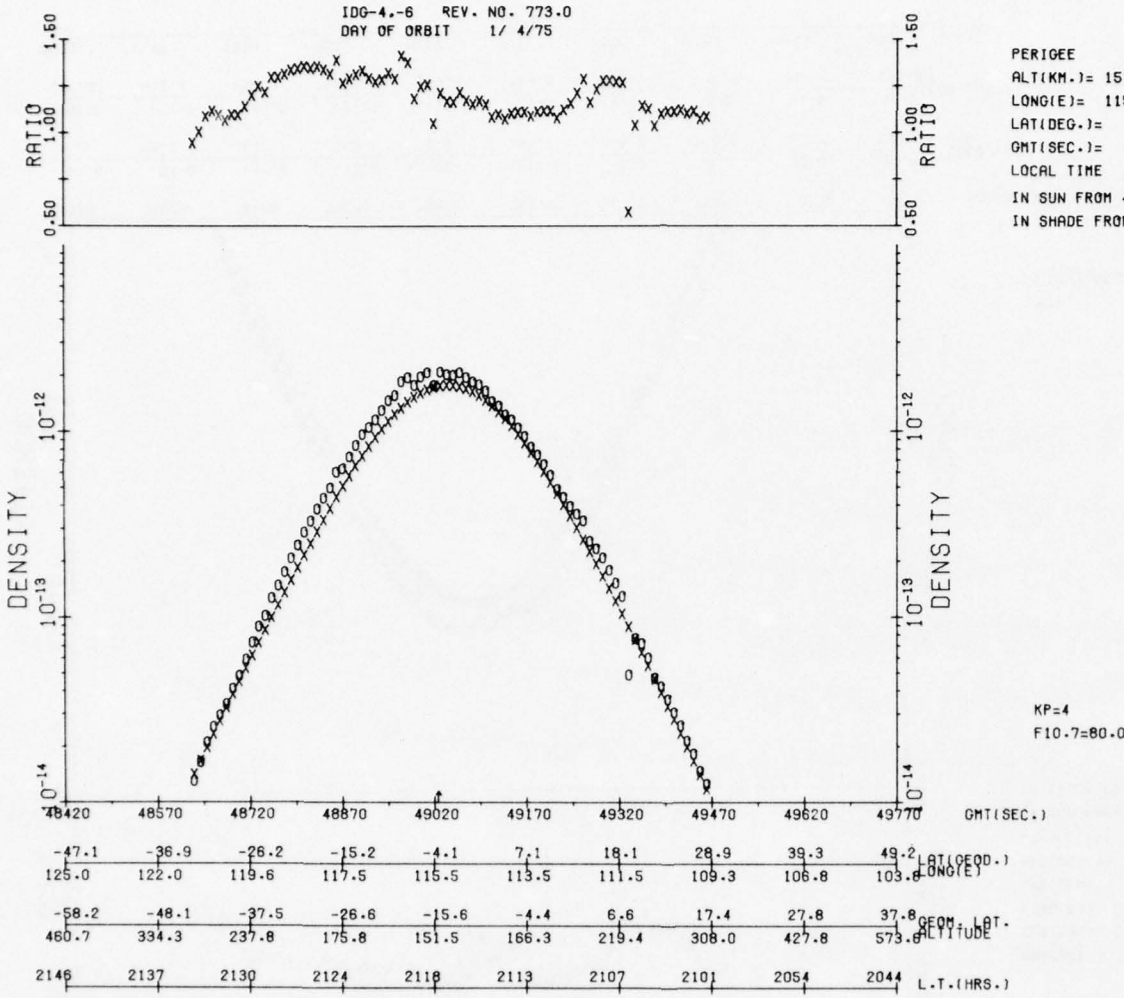
PERIGEE
ALT(KM.)= 151.18
LONG(E)= 174.12
LAT(DEG.)= -2.36
GMT(SEC.)= 34906.9 (0941H)
LOCAL TIME 2118 (H)
IN SUN FROM 34290. TO 36180.
IN SHADE FROM 36180. TO 35640.

KP=4-
F10.7=80.0



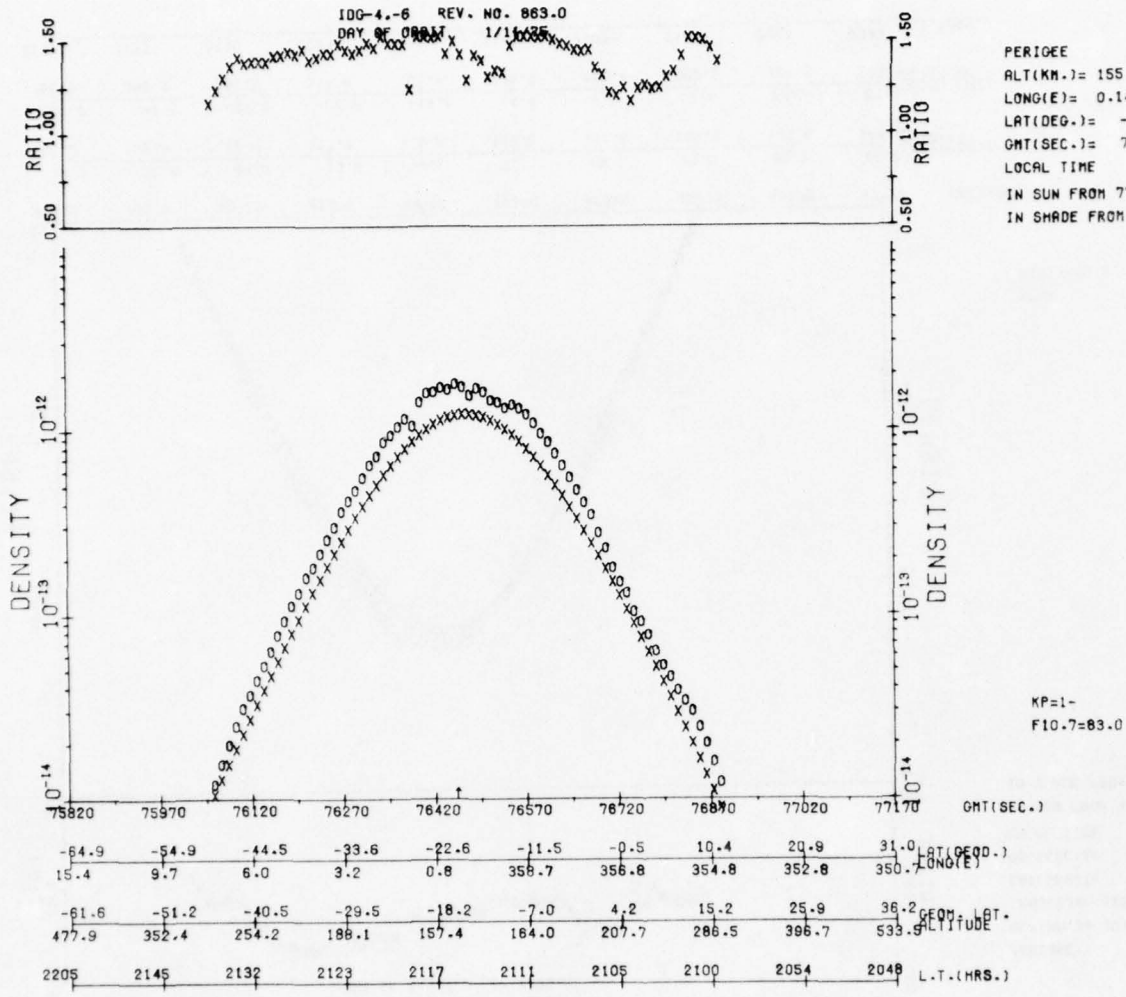
PERIGEE
ALT(KM.)= 151.21
LONG(E)= 144.67
LAT(DEG.)= -2.54
GMT(SEC.)= 41973.1 (1139H)
LOCAL TIME 2118 (H)
IN SUN FROM 41350. TO 43260.
IN SHADE FROM 43260. TO 42700.

KP=4-
F10.7=80.0



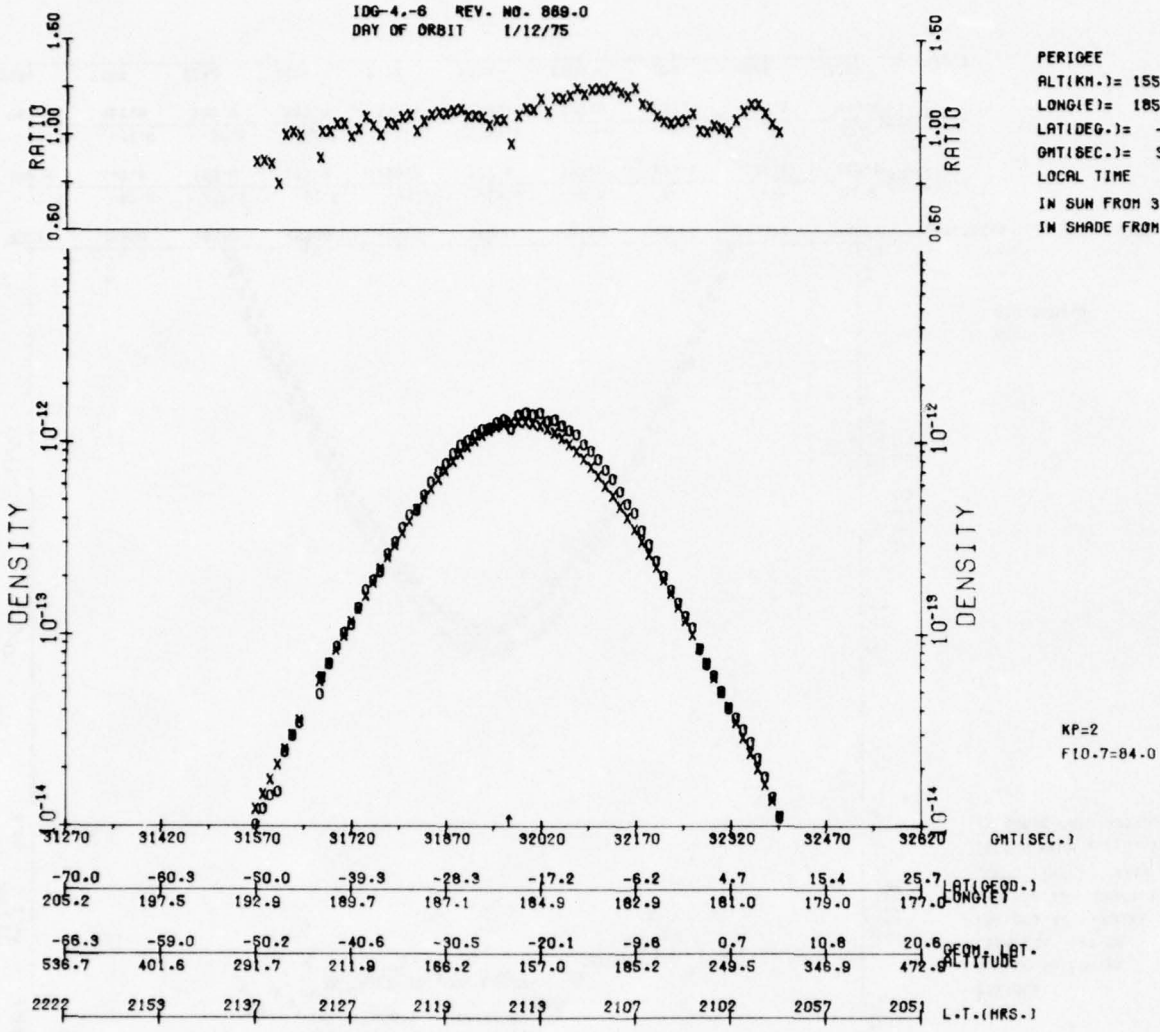
PERIGEE
ALT(KM.)= 151.24
LONG(E)= 115.22
LAT(DEG.)= -2.72
GMT(SEC.)= 49038.4 (1337H)
LOCAL TIME 2118 (H)
IN SUN FROM 48420. TO 50280.
IN SHADE FROM 50280. TO 49770.

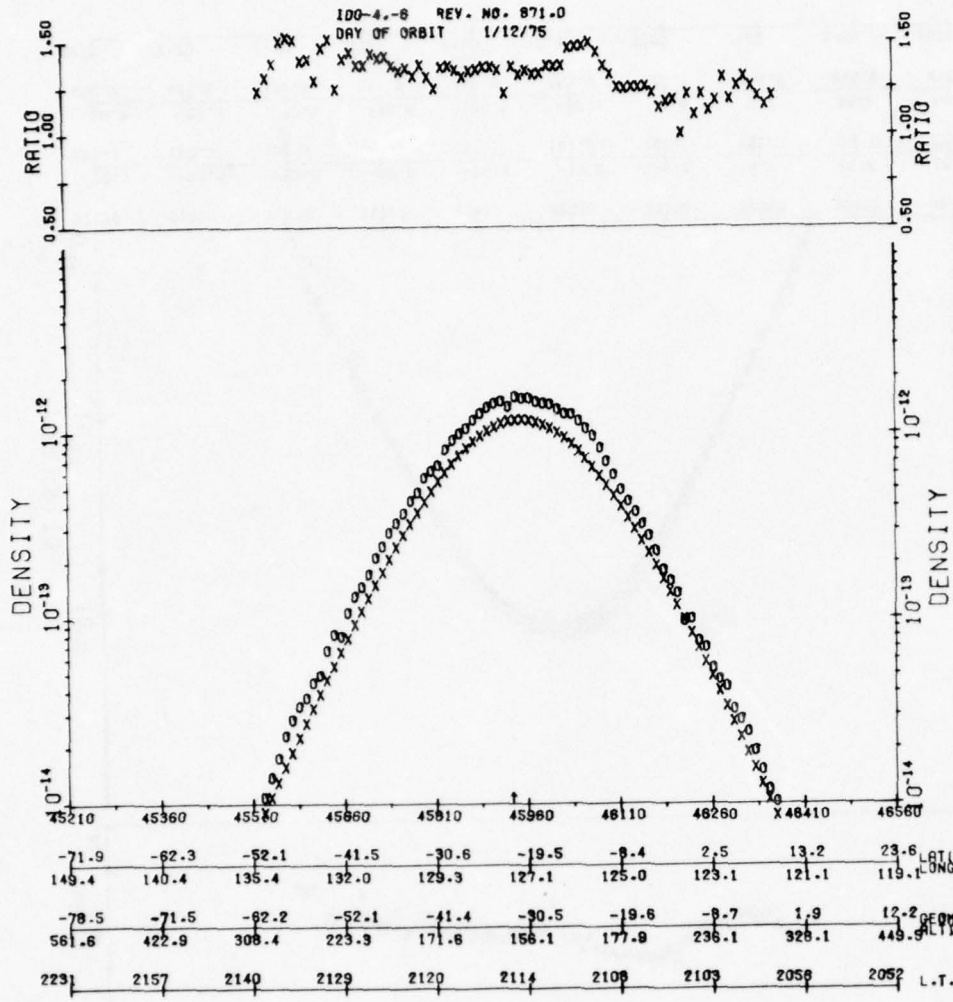
KP=4
F10.7=80.0



PERIGEE
ALT(KM.)= 155.41
LONG(E)= 0.14
LAT(DEG.)= -18.98
GMT(SEC.)= 76468.8 (2114H)
LOCAL TIME 2115 (H)
IN SUN FROM 77700. TO 77170.
IN SHADE FROM 75820. TO 77700.

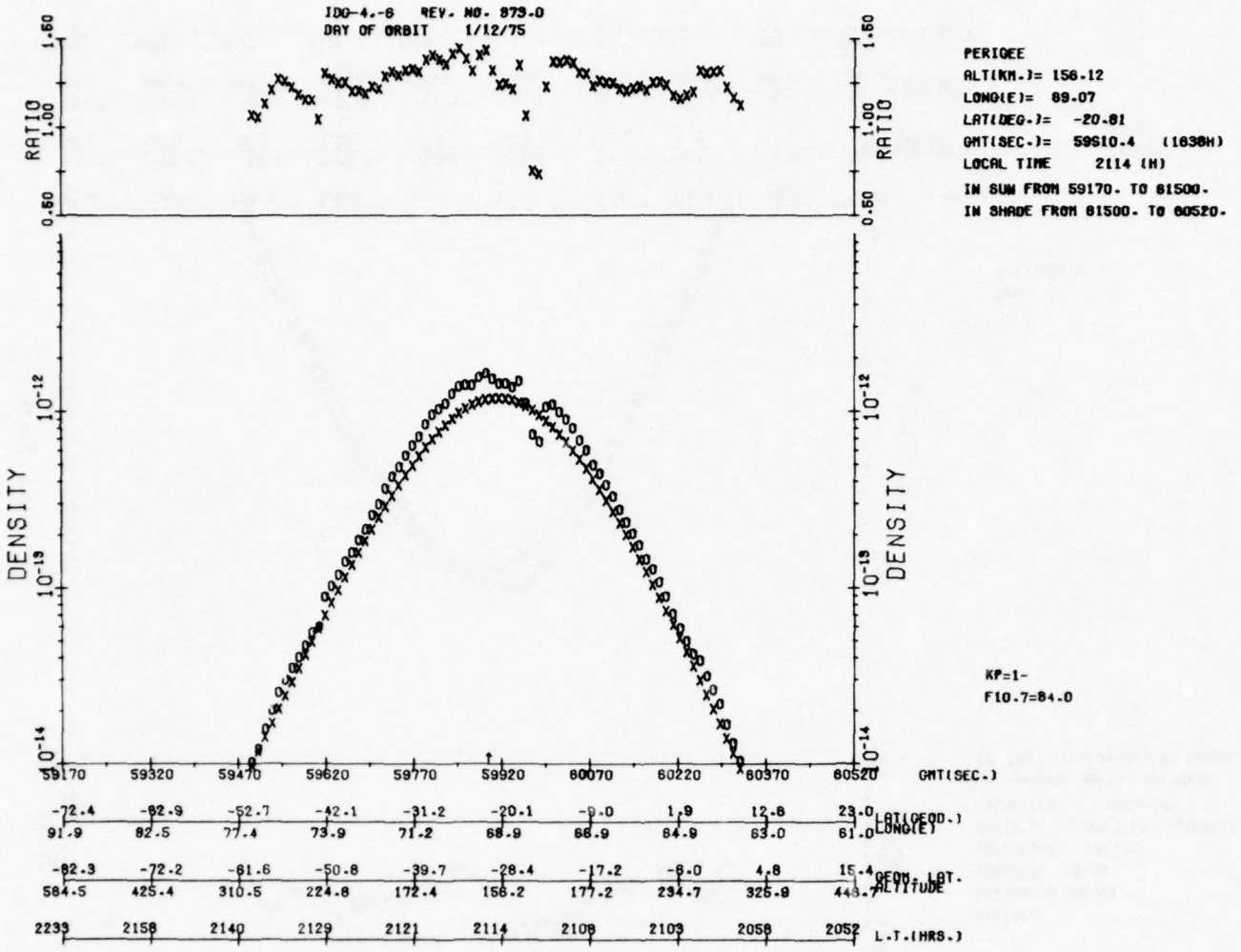
KP=1-
F10.7=83.0

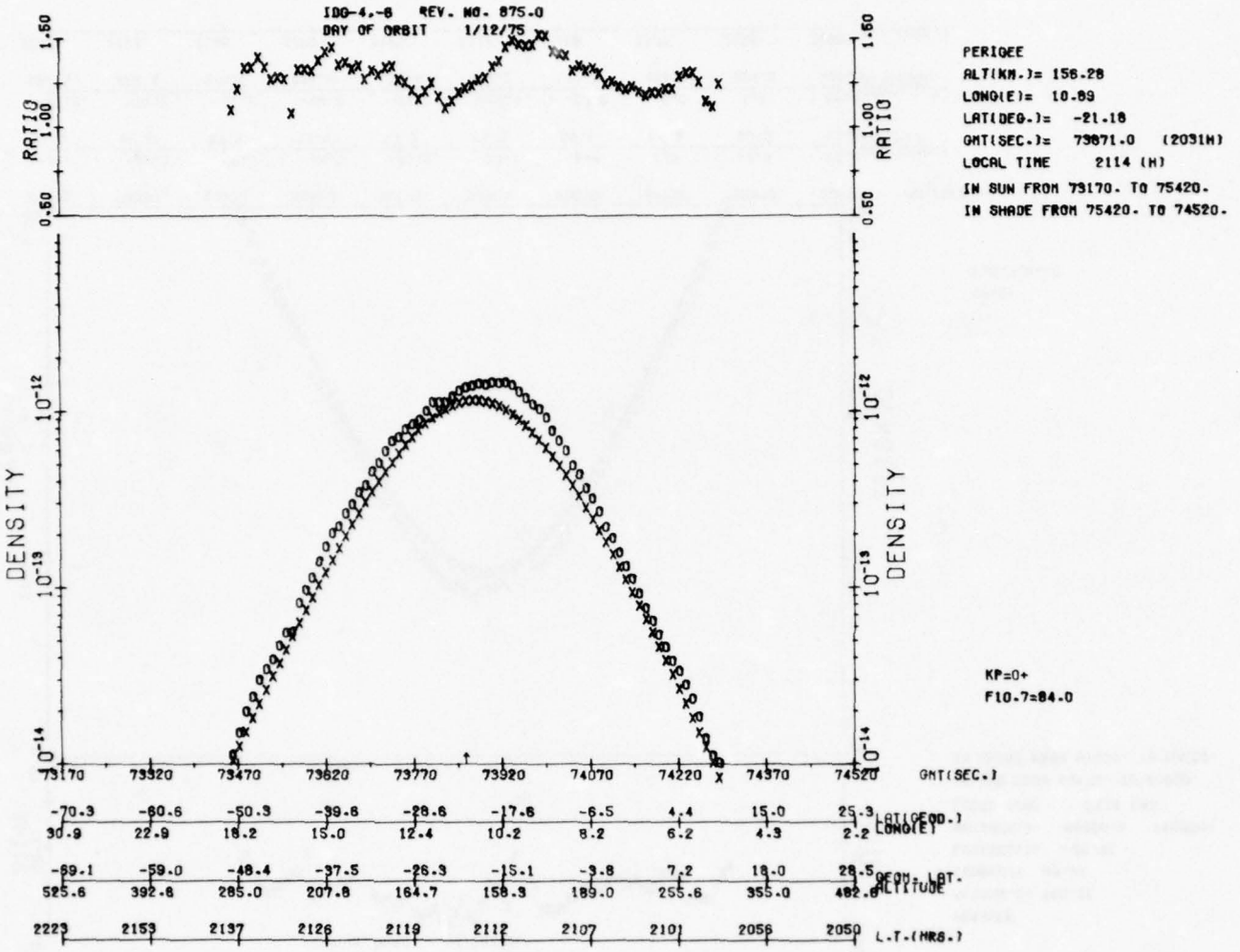

IDG-4,-6 REV. NO. 889.0
DAY OF ORBIT 1/12/75
RATIO
1.60
1.00
0.60
DENSITY
10^{-12}
10^{-13}
10^{-14}
PERIGEE
ALT(KM.)= 155.80
LONG(E)= 185.46
LAT(DEG.)= -20.08
GMT(SEC.)= 31981.7 (0853H)
LOCAL TIME 2114 (H)
IN SUN FROM 31270. TO 33540.
IN SHADE FROM 33540. TO 32620.
KP=2
F10.7=84.0
31270 31420 31570 31720 31870 32020 32170 32320 32470 32620 GMT(SEC.)
-70.0 -60.3 -50.0 -39.3 -28.3 -17.2 -6.2 4.7 15.4 25.7 LAT(GEOD.)
205.2 197.5 192.9 189.7 187.1 184.9 182.9 181.0 179.0 177.0 LONG(E)
-66.3 -59.0 -50.2 -40.6 -30.5 -20.1 -9.8 0.7 10.8 20.6 GEOM. LAT.
536.7 401.6 291.7 211.9 166.2 157.0 185.2 249.5 346.9 472.9 ALTITUDE
2222 2159 2137 2127 2119 2113 2107 2102 2057 2051 L.T.(HRS.)

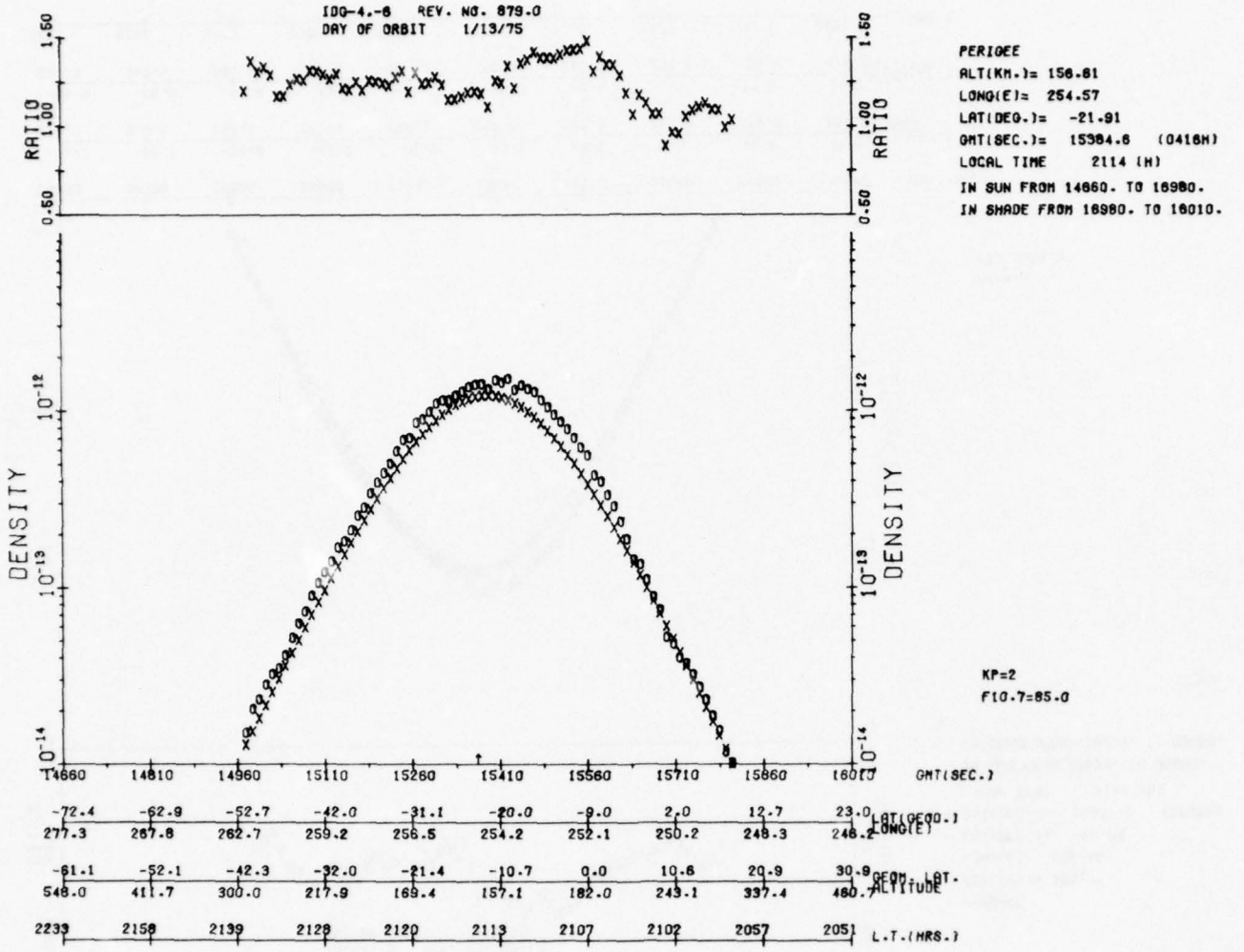


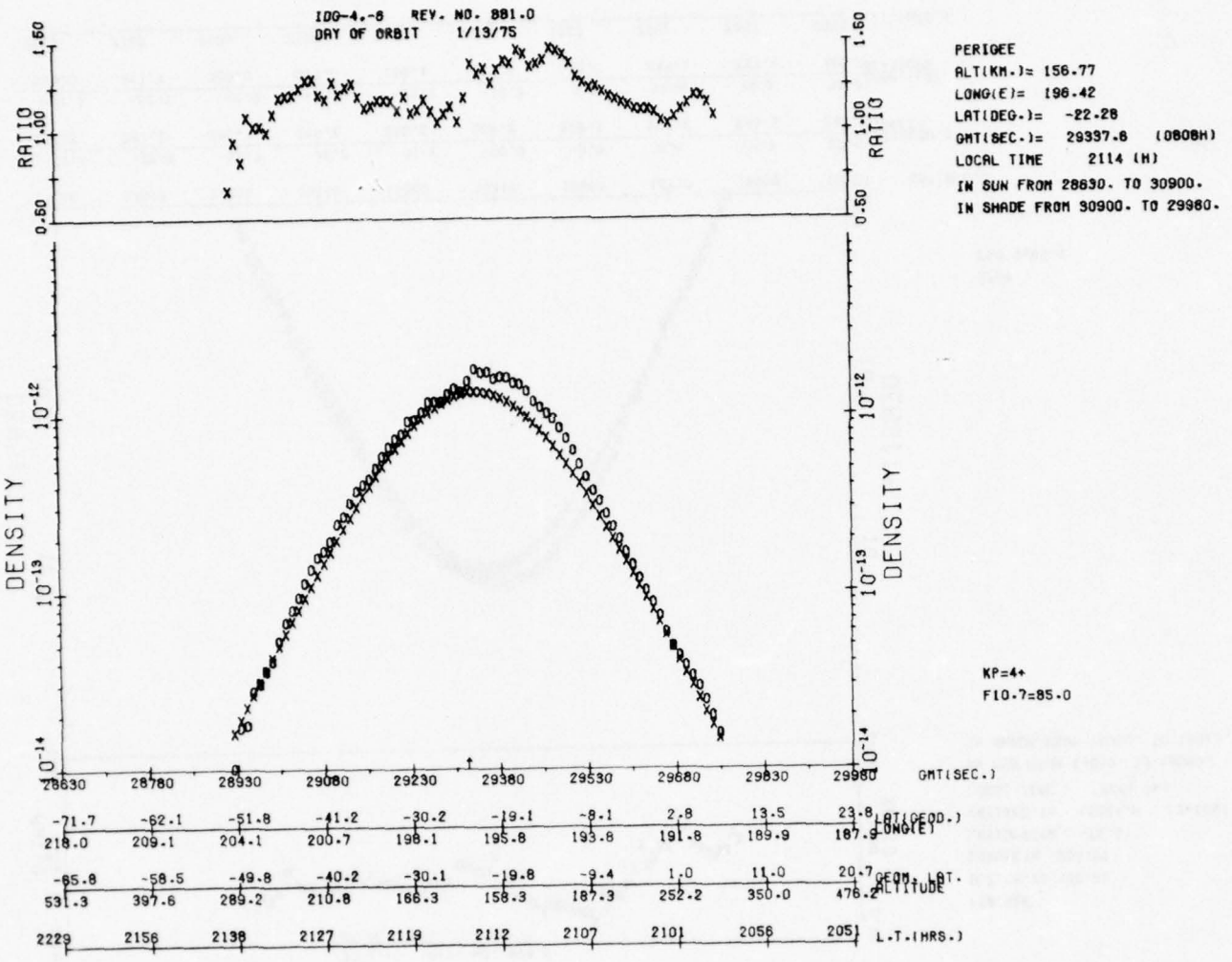
PERIGEE
ALT(KM.)= 155.98
LONG(E)= 127.26
LAT(DEG.)= -20.44
GMT(SEC.)= 45947.3 (1245M)
LOCAL TIME 2114 (H)
IN SUN FROM 45210. TO 47520.
IN SHADE FROM 47520. TO 48560.

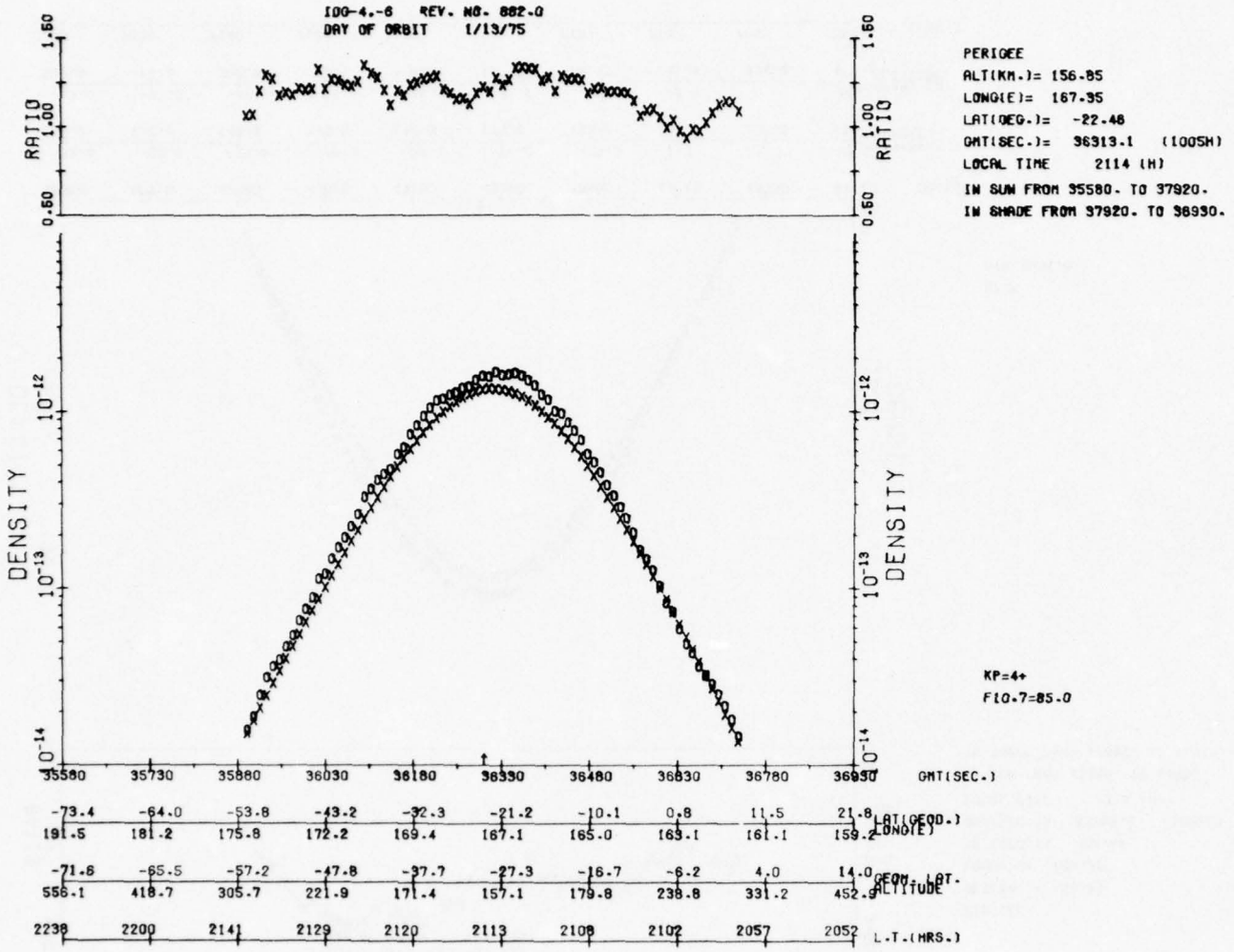
KP=0+
F10.7=84.0

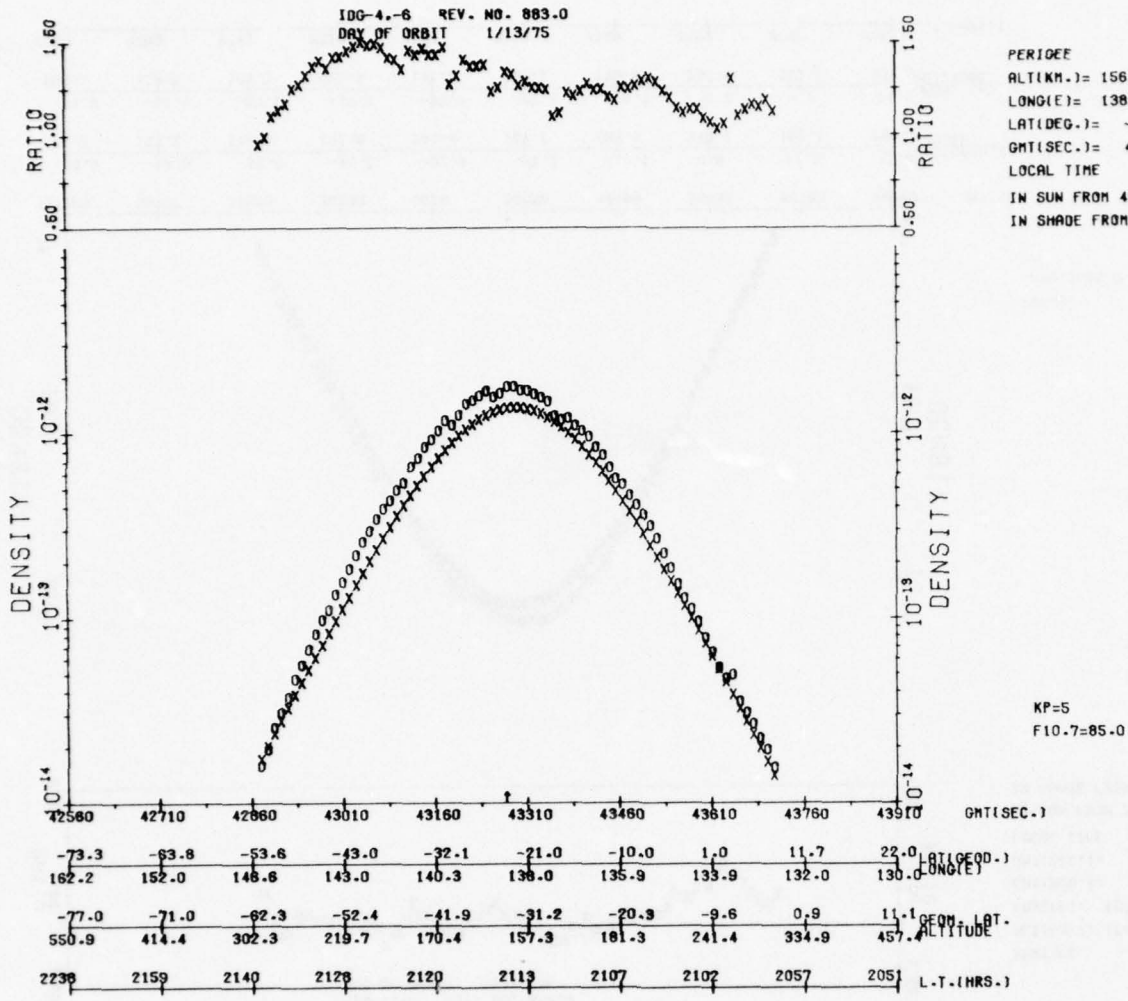

IDG-4.-6 REV. NO. 873.0
DAY OF ORBIT 1/12/75
RATIO
1.50
1.00
0.50
DENSITY
10^{-12}
10^{-13}
10^{-14}
PERIGEE
ALT(KM.)= 156.12
LONG(E)= 89.07
LAT(DEG.)= -20.81
GMT(SEC.)= 59810.4 (1638H)
LOCAL TIME 2114 (H)
IN SUN FROM 59170. TO 61500.
IN SHADE FROM 61500. TO 60520.
KP=1-
F10.7=84.0
59170 59320 59470 59620 59770 59920 60070 60220 60370 60520 GMT(SEC.)
-72.4 -62.9 -52.7 -42.1 -31.2 -20.1 -8.0 1.9 12.8 23.0 LAT(GEOD.)
91.9 82.5 77.4 73.9 71.2 68.9 68.9 64.9 63.0 61.0 LONG(E)
-82.3 -72.2 -61.6 -50.8 -39.7 -28.4 -17.2 -6.0 4.8 15.4 GEOM. LAT.
584.5 425.4 310.5 224.8 172.4 156.2 177.2 234.7 325.9 448.7 ALTITUDE
2233 2158 2140 2129 2121 2114 2108 2103 2058 2052 L.T.(HRS.)


IDG-4,-6 REV. NO. 875.0
DAY OF ORBIT 1/12/75
RATIO
1.50
1.00
0.50
DENSITY
10^{-12}
10^{-13}
10^{-14}
PERIQEE
ALT(KM.)= 156.28
LONG(E)= 10.89
LAT(DEG.)= -21.18
GMT(SEC.)= 73671.0 (2031H)
LOCAL TIME 2114 (H)
IN SUN FROM 73170. TO 75420.
IN SHADE FROM 75420. TO 74520.
KP=0+
F10.7=84.0
73170 73320 73470 73620 73770 73920 74070 74220 74370 74520 GMT(SEC.)
-70.3 -60.6 -50.3 -39.6 -28.6 -17.6 -6.5 4.4 15.0 25.3 LAT(GEOD.)
30.9 22.9 18.2 15.0 12.4 10.2 8.2 6.2 4.3 2.2 LONG(E)
-69.1 -59.0 -48.4 -37.5 -26.3 -15.1 -3.8 7.2 18.0 28.5 GEOM. LAT.
525.6 392.8 285.0 207.8 164.7 158.3 189.0 255.6 355.0 482.8 ALTITUDE
2223 2153 2137 2126 2119 2112 2107 2101 2056 2050 L.T.(HRS.)


IDG-4.-6 REV. NO. 879.0
DAY OF ORBIT 1/13/75
RATIO
1.50
1.00
0.50
DENSITY
10^{-12}
10^{-13}
10^{-14}
PERIGEE
ALT(KM.)= 156.81
LONG(E)= 254.57
LAT(DEG.)= -21.91
GMT(SEC.)= 15384.6 (0416H)
LOCAL TIME 2114 (H)
IN SUN FROM 14660. TO 16980.
IN SHADE FROM 16980. TO 16010.
KP=2
F10.7=85.0
14660 14810 14960 15110 15260 15410 15560 15710 15860 16010 GMT(SEC.)
-72.4 -62.9 -52.7 -42.0 -31.1 -20.0 -9.0 2.0 12.7 23.0 LAT(GEOD.)
277.3 267.8 262.7 259.2 256.5 254.2 252.1 250.2 248.3 248.2 LONG(E)
-61.1 -52.1 -42.3 -32.0 -21.4 -10.7 0.0 10.6 20.9 30.9 GEOM. LAT.
548.0 411.7 300.0 217.9 169.4 157.1 182.0 243.1 337.4 460.7 ALTITUDE
2233 2158 2139 2128 2120 2113 2107 2102 2057 2051 L.T.(HRS.)

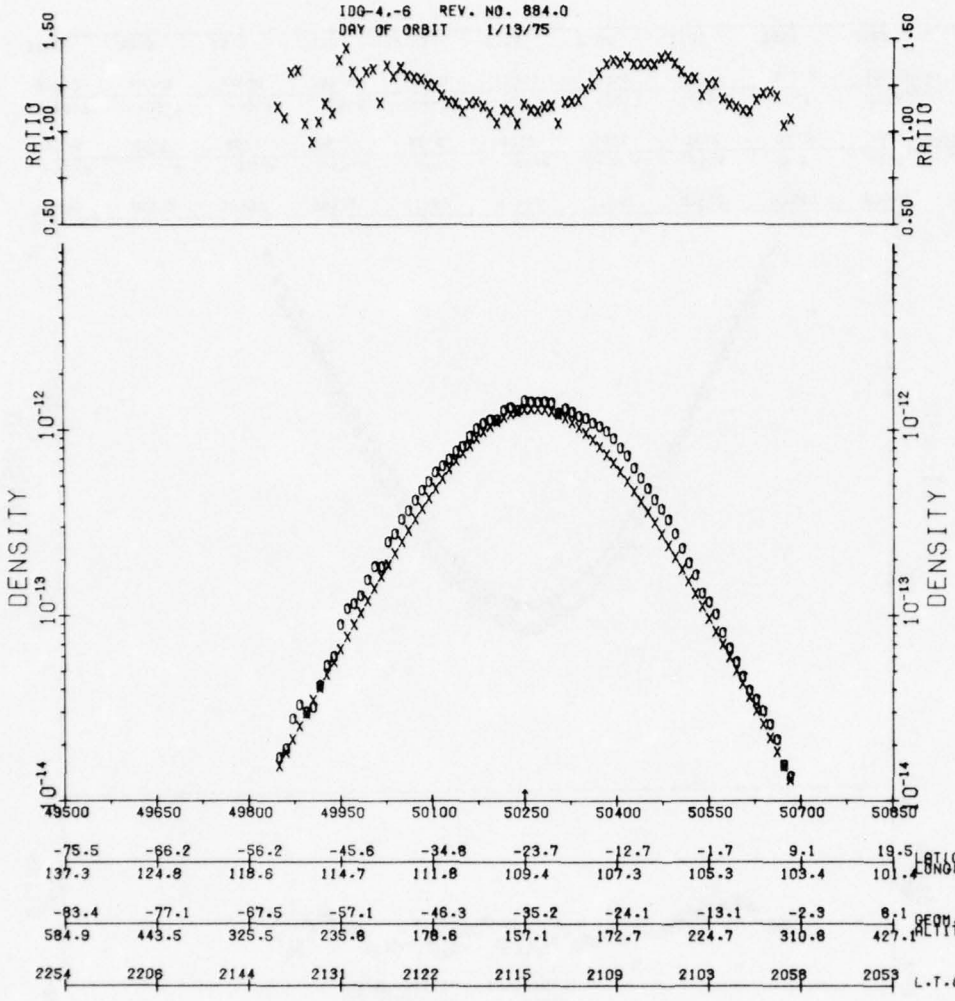

IDG-4.-8 REV. NO. 881.0
DAY OF ORBIT 1/13/75
RATIO
1.60
1.00
0.60
DENSITY
10^{-12}
10^{-13}
10^{-14}
PERIGEE
ALT(KM.)= 156.77
LONG(E)= 196.42
LAT(DEG.)= -22.28
GMT(SEC.)= 29397.8 (0808H)
LOCAL TIME 2114 (H)
IN SUN FROM 28830. TO 30900.
IN SHADE FROM 30900. TO 29980.
KP=4+
F10.7=85.0
28830 28780 28930 29080 29230 29380 29530 29680 29830 29980 GMT(SEC.)
-71.7 -62.1 -51.8 -41.2 -30.2 -19.1 -8.1 2.8 13.5 23.8 LAT(GEOD.)
218.0 209.1 204.1 200.7 198.1 195.8 193.8 191.8 189.9 187.9 LONG(E)
-85.8 -58.5 -49.8 -40.2 -30.1 -19.8 -9.4 1.0 11.0 20.7 GEOM. LAT.
531.3 397.6 289.2 210.8 166.3 158.3 187.3 252.2 350.0 476.2 ALTITUDE
2229 2156 2138 2127 2119 2112 2107 2101 2058 2051 L.T.(HRS.)


IDG-4.-6 REV. NO. 882.0
DAY OF ORBIT 1/13/75
RATIO
1.60
1.00
0.60
DENSITY
10^{-12}
10^{-13}
10^{-14}
PERIGEE
ALT(KM.)= 156.85
LONG(E)= 167.35
LAT(DEG.)= -22.48
GMT(SEC.)= 36913.1 (1005H)
LOCAL TIME 2114 (H)
IN SUN FROM 35580. TO 37920.
IN SHADE FROM 37920. TO 38930.
KP=4+
F10.7=85.0
35580 35730 35880 36030 36180 36330 36480 36630 36780 36930 GMT(SEC.)
-73.4 -64.0 -53.8 -43.2 -32.3 -21.2 -10.1 0.8 11.5 21.8 LAT(GEOD.)
191.5 181.2 175.8 172.2 169.4 167.1 165.0 163.1 161.1 159.2 LONG(E)
-71.6 -65.5 -57.2 -47.8 -37.7 -27.3 -16.7 -6.2 4.0 14.0 GEOM. LAT.
556.1 418.7 305.7 221.9 171.4 157.1 179.8 238.8 331.2 452.9 ALTITUDE
2238 2200 2141 2129 2120 2113 2108 2102 2057 2052 L.T.(HRS.)



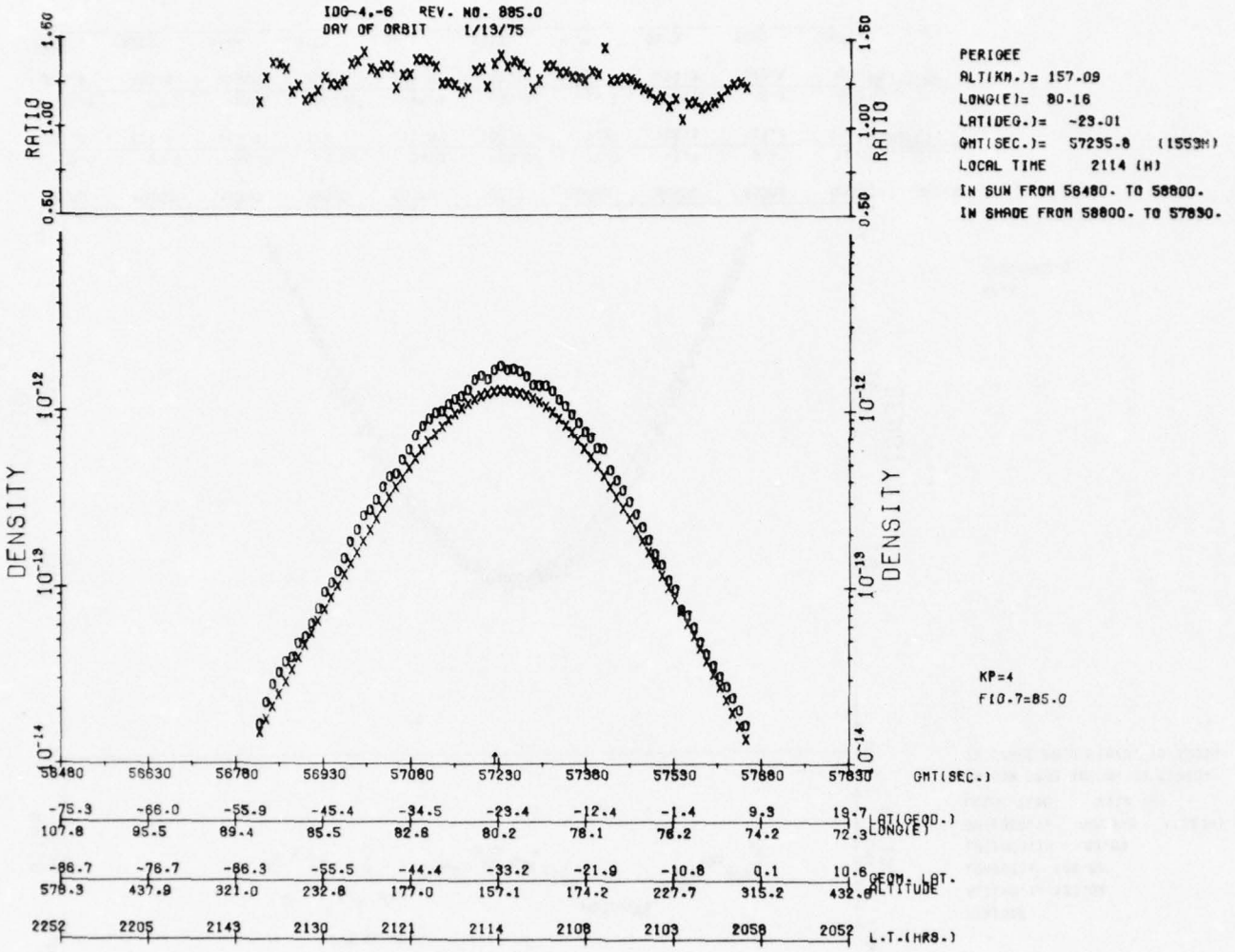
PERIGEE
ALT(KM.)= 156.94
LONG(E)= 138.28
LAT(DEG.)= -22.64
GMT(SEC.)= 43288.0 (1201H)
LOCAL TIME 2114 (H)
IN SUN FROM 42560. TO 44880.
IN SHADE FROM 44880. TO 43910.

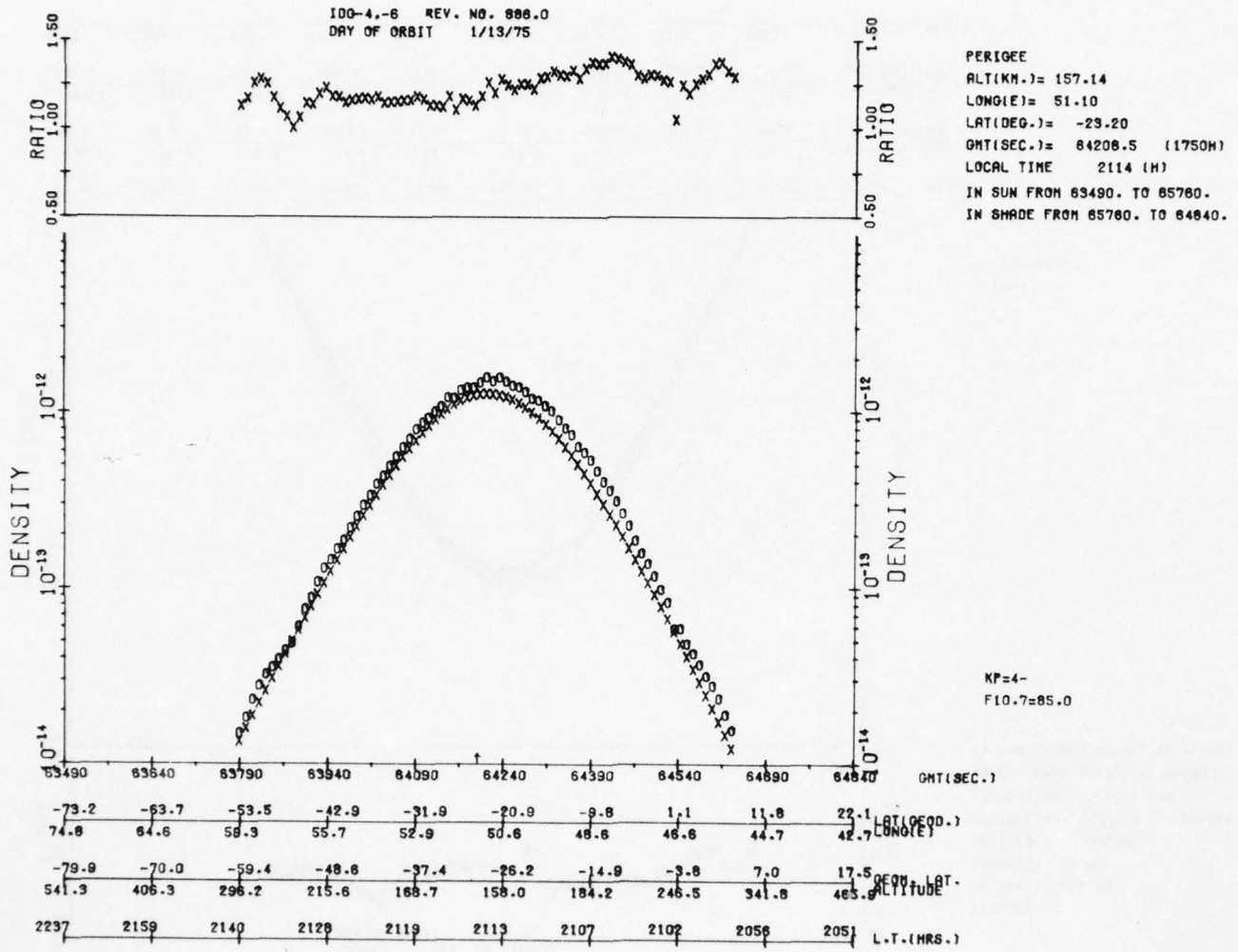
KP=5
F10.7=85.0



PERIGEE
ALT(KM.)= 157.02
LONG(E)= 109.22
LAT(DEG.)= -22.83
GMT(SEC.)= 50262.3 (1357H)
LOCAL TIME 2114 (H)
IN SUN FROM 49500. TO 51840.
IN SHADE FROM 51840. TO 50850.

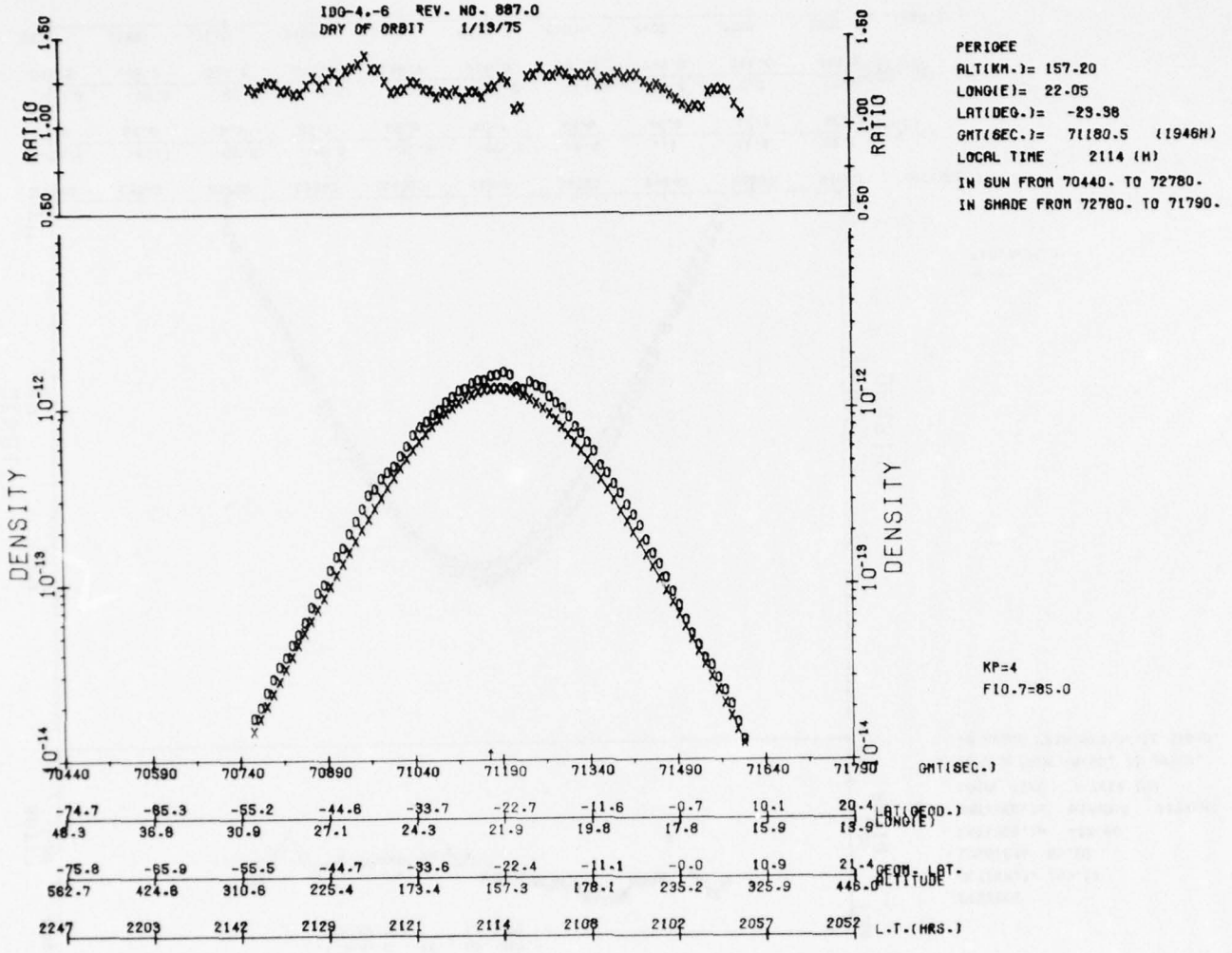
KP=4
F10.7=85.0


IDG-4,-6 REV. NO. 885.0
DAY OF ORBIT 1/13/75
RATIO
1.60
1.00
0.50
DENSITY
10^{-12}
10^{-13}
10^{-14}
PERIGEE
ALT(KM.)= 157.09
LONG(E)= 80.16
LAT(DEG.)= -23.01
GMT(SEC.)= 57295.8 (1559H)
LOCAL TIME 2114 (H)
IN SUN FROM 58480. TO 58800.
IN SHADE FROM 58800. TO 57830.
KP=4
F10.7=85.0
58480 58630 56780 56930 57080 57230 57380 57530 57680 57830 GMT(SEC.)
-75.3 -66.0 -55.9 -45.4 -34.5 -23.4 -12.4 -1.4 9.3 19.7 LAT(GEOD.)
107.8 95.5 89.4 85.5 82.8 80.2 78.1 76.2 74.2 72.3 LONG(E)
-86.7 -78.7 -86.3 -55.5 -44.4 -33.2 -21.9 -10.8 0.1 10.6 GEOM. LAT.
578.3 437.9 321.0 232.8 177.0 157.1 174.2 227.7 315.2 432.8 ALTITUDE
2252 2205 2143 2130 2121 2114 2108 2103 2058 2052 L.T.-(HRS.)



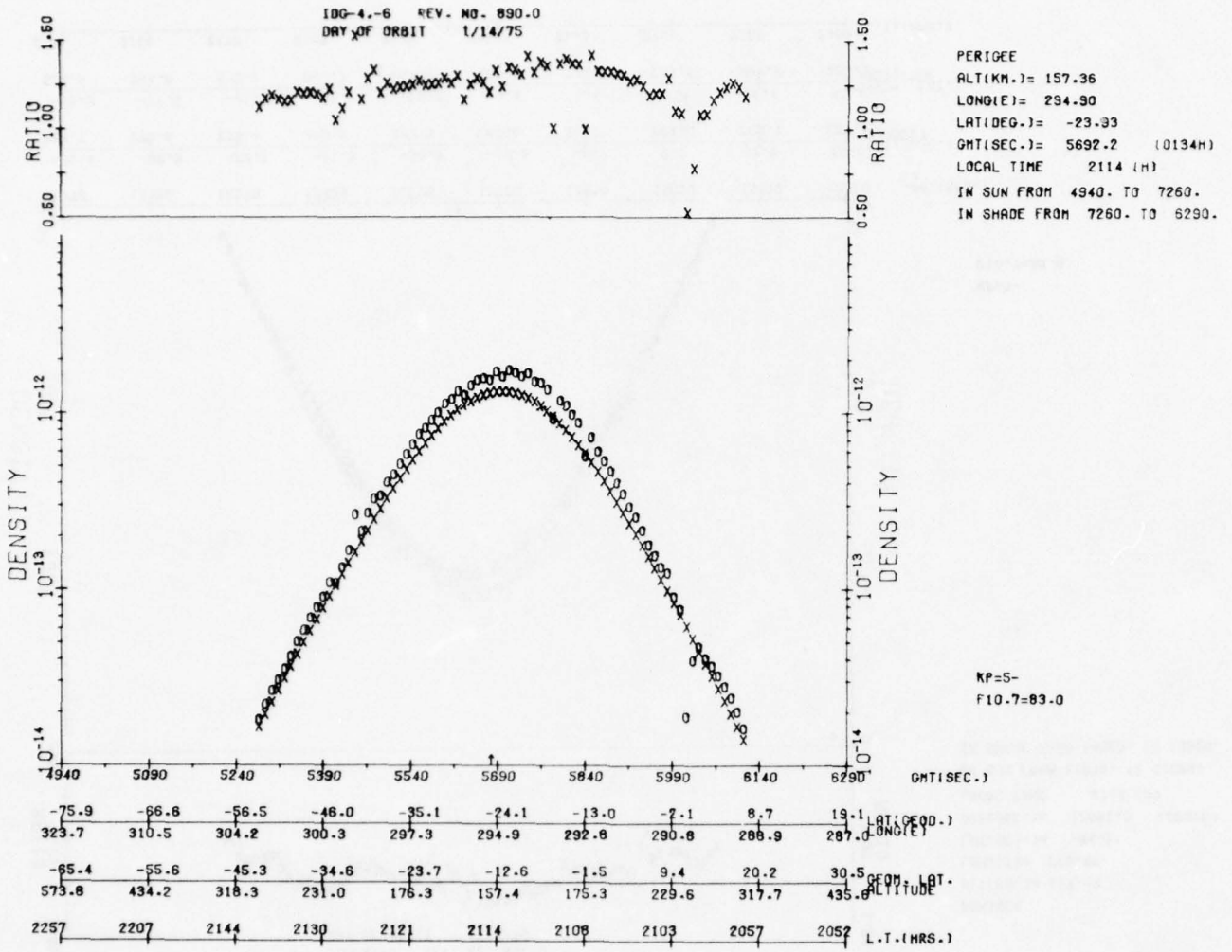
PERIGEE
ALT(KM.)= 157.14
LONG(E)= 51.10
LAT(DEG.)= -23.20
GMT(SEC.)= 64208.5 (1750H)
LOCAL TIME 2114 (H)
IN SUN FROM 63490. TO 65760.
IN SHADE FROM 65760. TO 64840.

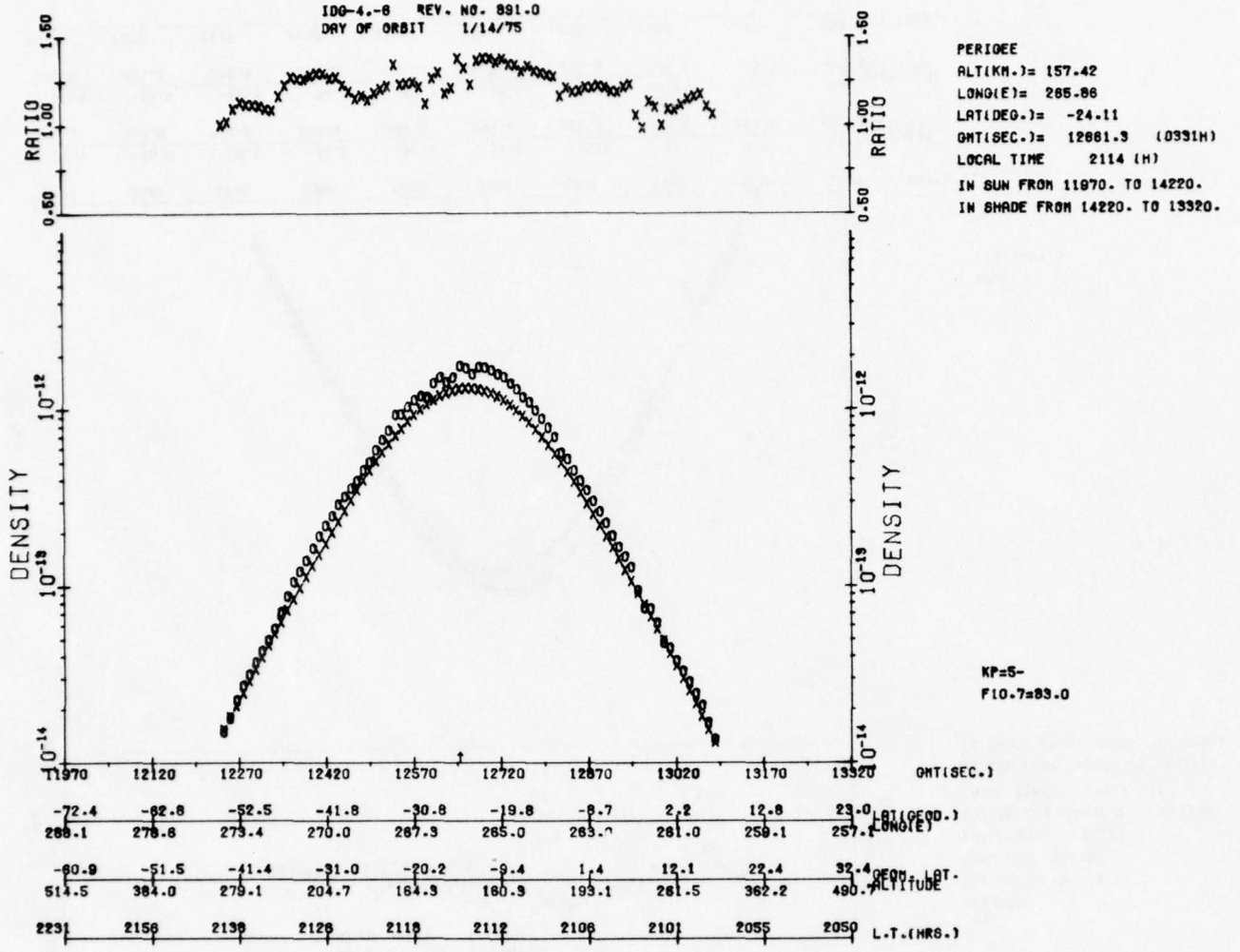
KP=4-
F10.7=85.0



PERIGEE
ALT(KM.)= 157.20
LONG(E)= 22.05
LAT(DEG.)= -29.38
GMT(SEC.)= 71180.5 (1946H)
LOCAL TIME 2114 (H)
IN SUN FROM 70440. TO 72780.
IN SHADE FROM 72780. TO 71790.

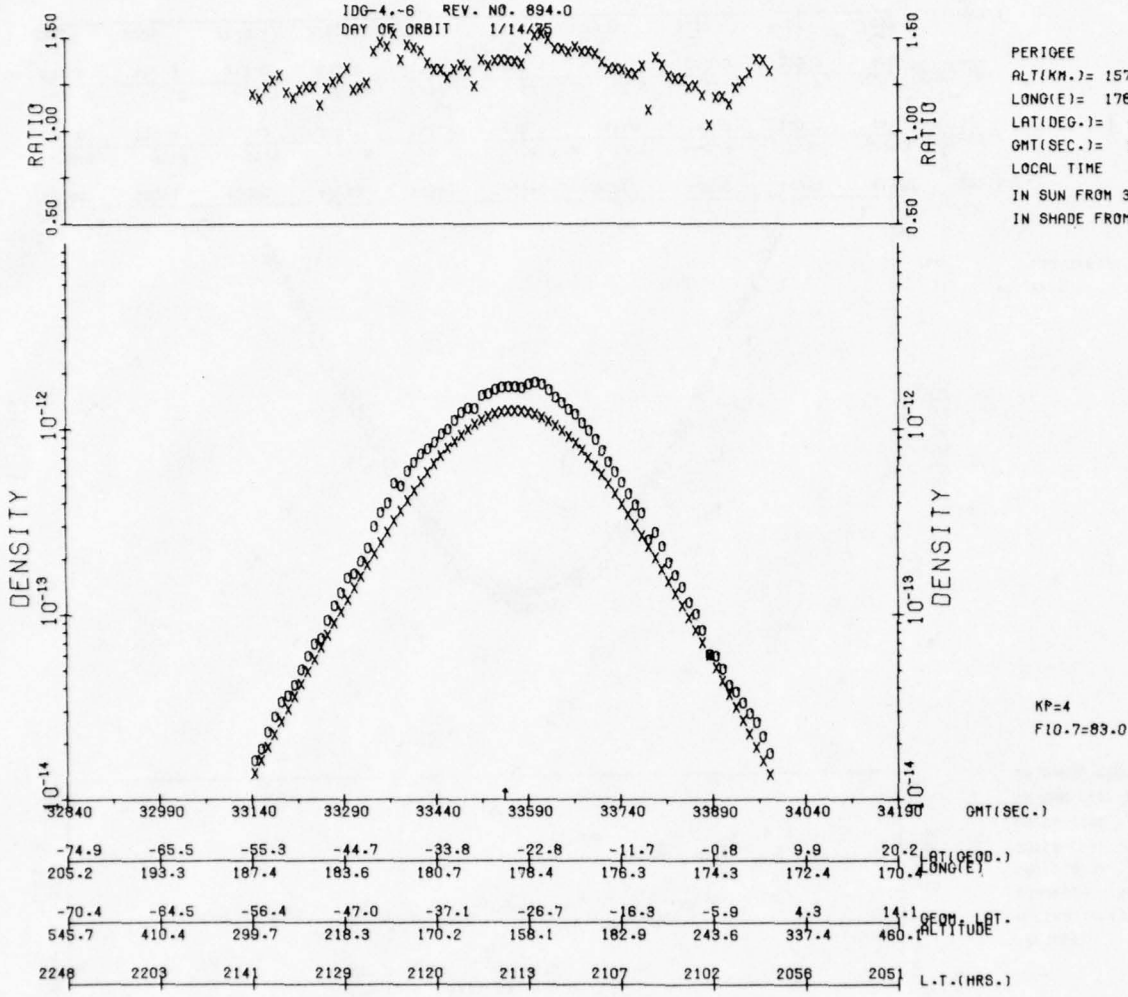
KP=4
F10.7=85.0


IDG-4.-6 REV. NO. 890.0
DAY OF ORBIT 1/14/75
RATIO
1.50
1.00
0.50
DENSITY
10^{-12}
10^{-13}
10^{-14}
PERIGEE
ALT(KM.)= 157.36
LONG(E)= 294.90
LAT(DEG.)= -23.33
GMT(SEC.)= 5692.2 (0134H)
LOCAL TIME 2114 (H)
IN SUN FROM 4940. TO 7260.
IN SHADE FROM 7260. TO 6290.
KP=5-
F10.7=83.0
4940 5090 5240 5390 5540 5690 5840 5990 6140 6290 GMT(SEC.)
-75.9 -66.8 -56.5 -46.0 -35.1 -24.1 -13.0 -2.1 8.7 19.1 LAT(GEOD.)
323.7 310.5 304.2 300.3 297.3 294.9 292.8 290.8 288.9 287.0 LONG(E)
-65.4 -55.6 -45.3 -34.6 -23.7 -12.6 -1.5 9.4 20.2 30.5 GEOM. LAT.
573.8 434.2 318.3 231.0 176.3 157.4 175.3 229.6 317.7 435.8 ALTITUDE
2257 2207 2144 2130 2121 2114 2108 2103 2057 2052 L.T.(HRS.)



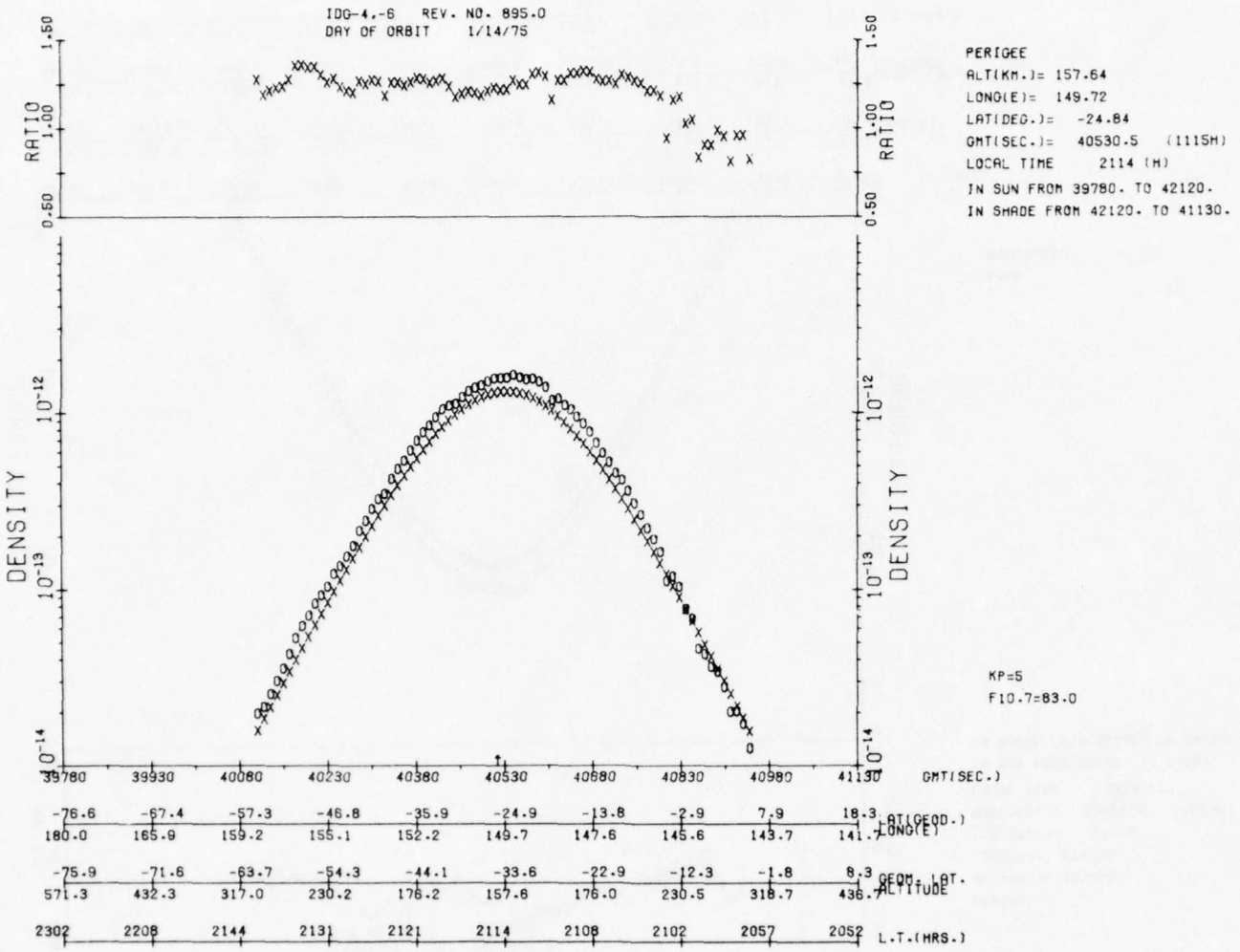
PERIGEE
ALT(KM.)= 157.42
LONG(E)= 265.86
LAT(DEG.)= -24.11
GMT(SEC.)= 12661.3 (0331H)
LOCAL TIME 2114 (H)
IN SUN FROM 11970. TO 14220.
IN SHADE FROM 14220. TO 15320.

KP=5-
F10.7=83.0



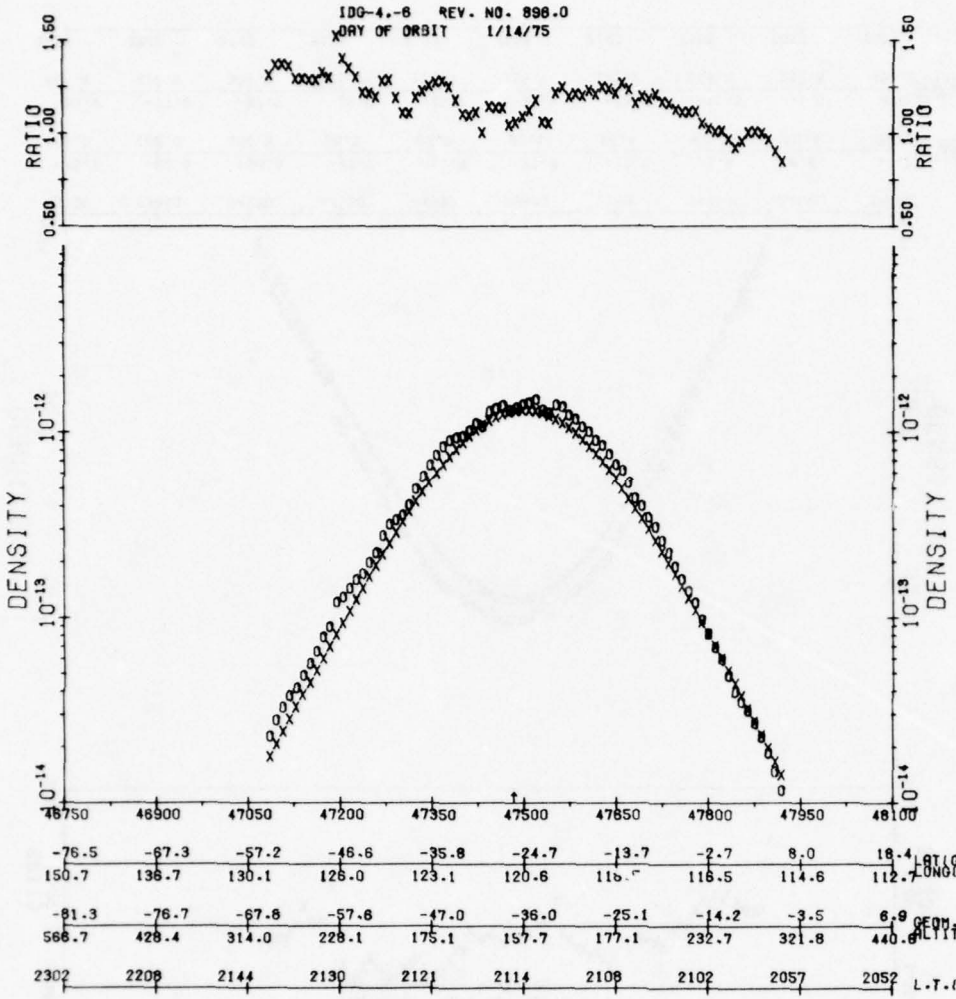
PERIGEE
ALT(KM.)= 157.59
LONG(E)= 178.75
LAT(DEG.)= -24.66
GMT(SEC.)= 33564.3 (0919H)
LOCAL TIME 2114 (H)
IN SUN FROM 32840. TO 35160.
IN SHADE FROM 35160. TO 34190.

KP=4
F10.7=83.0



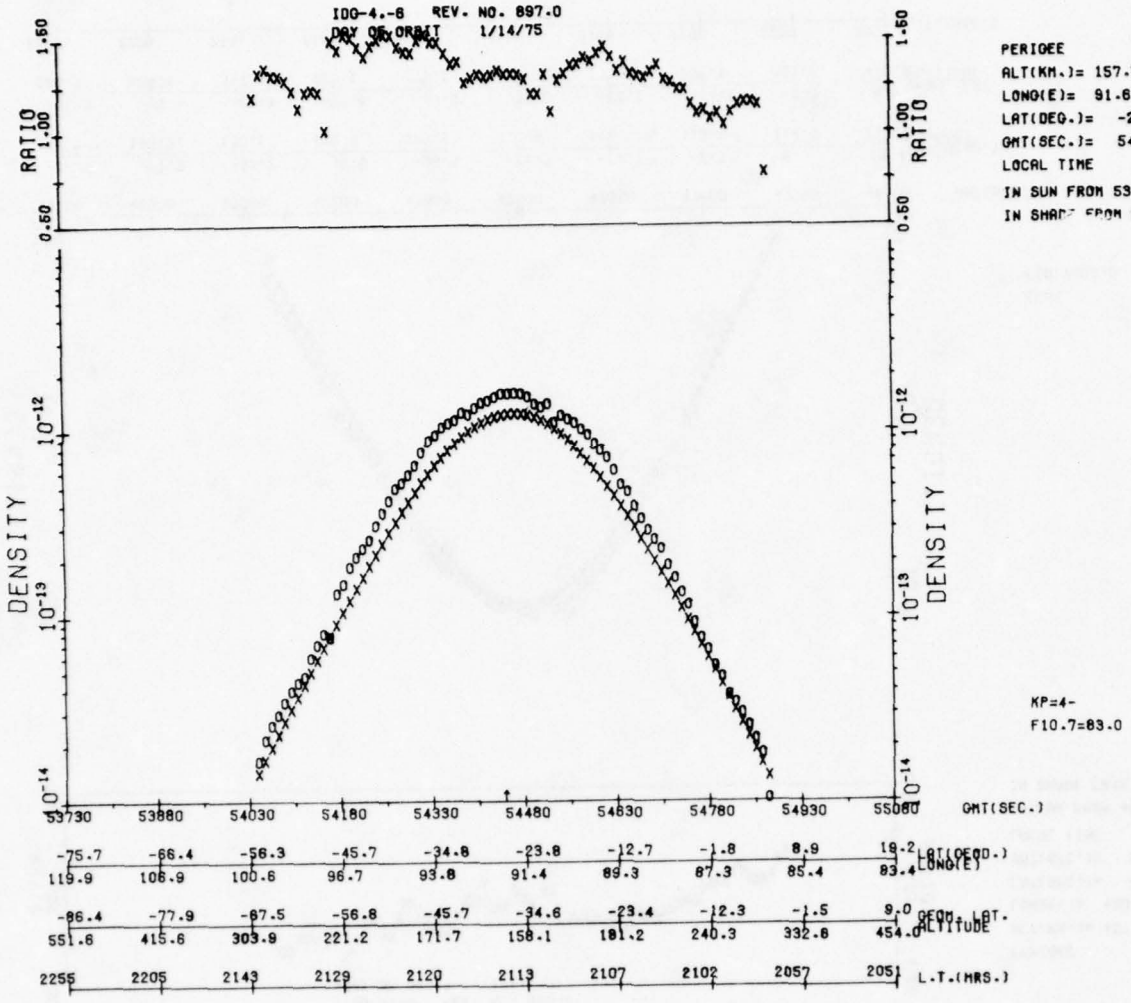
PERIGEE
ALT(KM.)= 157.64
LONG(E)= 149.72
LAT(DEG.)= -24.84
GMT(SEC.)= 40530.5 (1115H)
LOCAL TIME 2114 (H)
IN SUN FROM 39780. TO 42120.
IN SHADE FROM 42120. TO 41130.

KP=5
F10.7=83.0



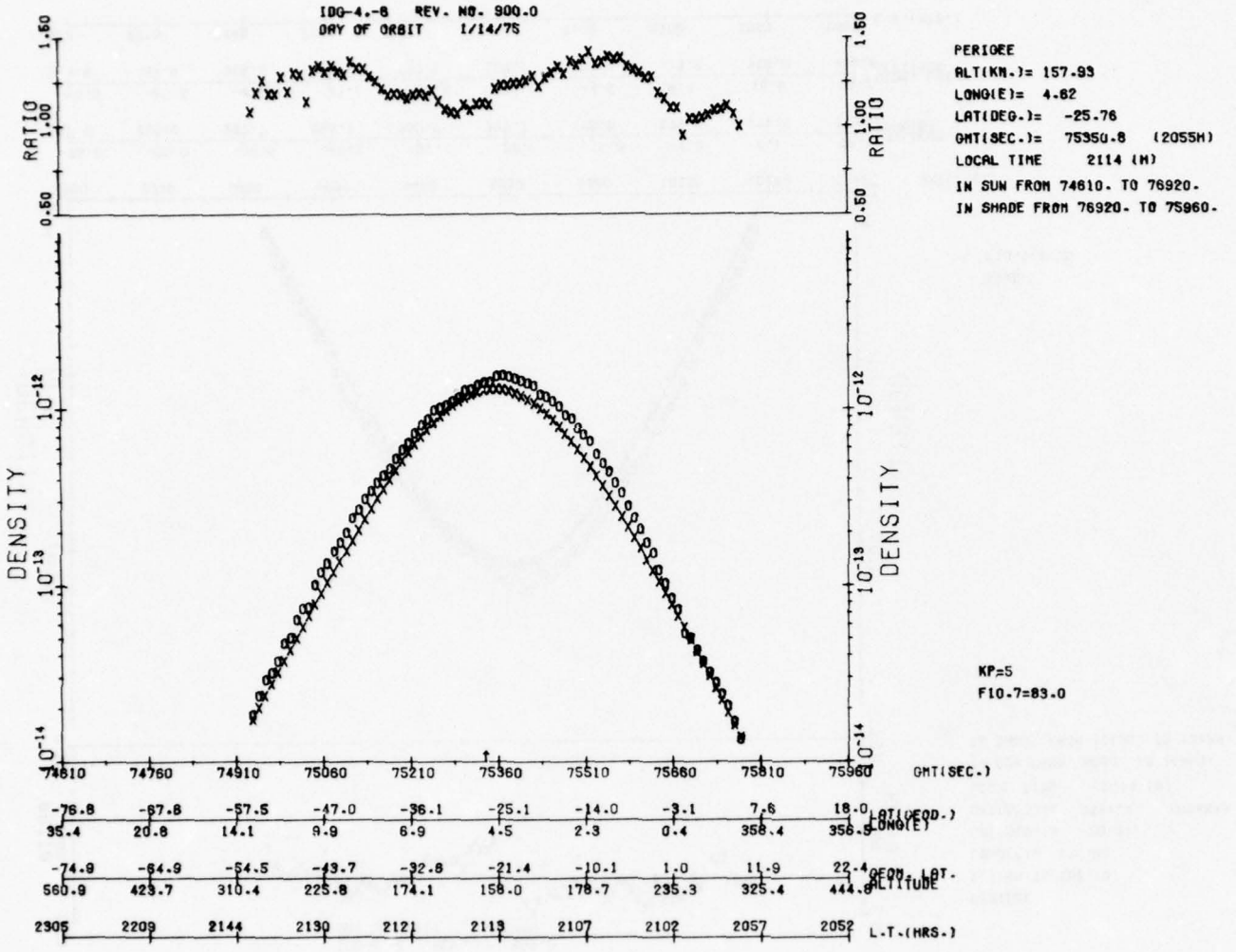
PERIGEE
ALT(KM.)= 157.70
LONG(E)= 120.70
LAT(DEG.)= -25.02
GMT(SEC.)= 47496.0 (1311H)
LOCAL TIME 2114 (H)
IN SUN FROM 46750. TO 49080.
IN SHADE FROM 49080. TO 48100.

KP=5
F10.7=83.0



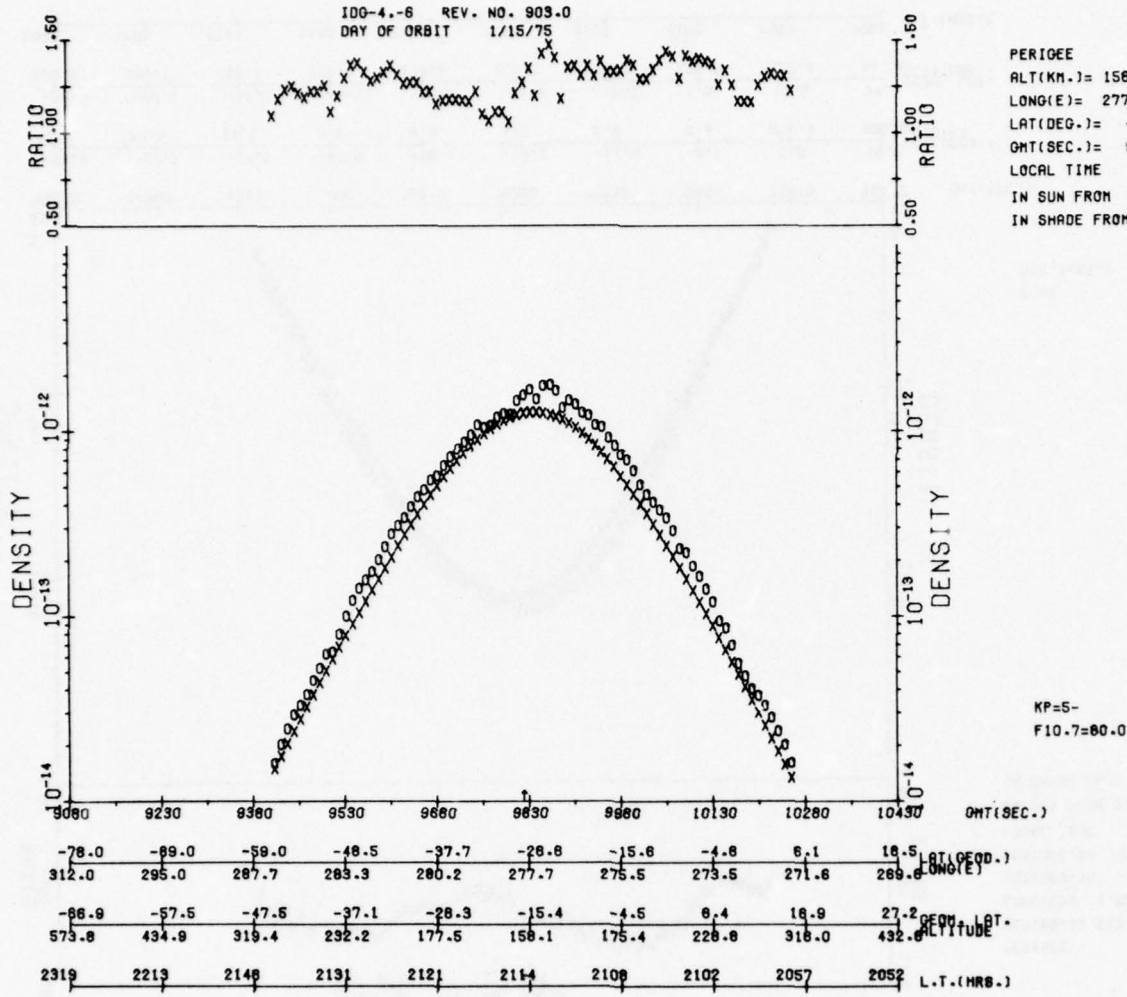
PERIGEE
ALT(KM.)= 157.76
LONG(E)= 91.67
LAT(DEG.)= -25.21
GMT(SEC.)= 54460.8 (1507M)
LOCAL TIME 2114 (M)
IN SUN FROM 53730. TO 56040.
IN SHADE FROM 56040. TO 55080.

KP=4-
F10.7=83.0



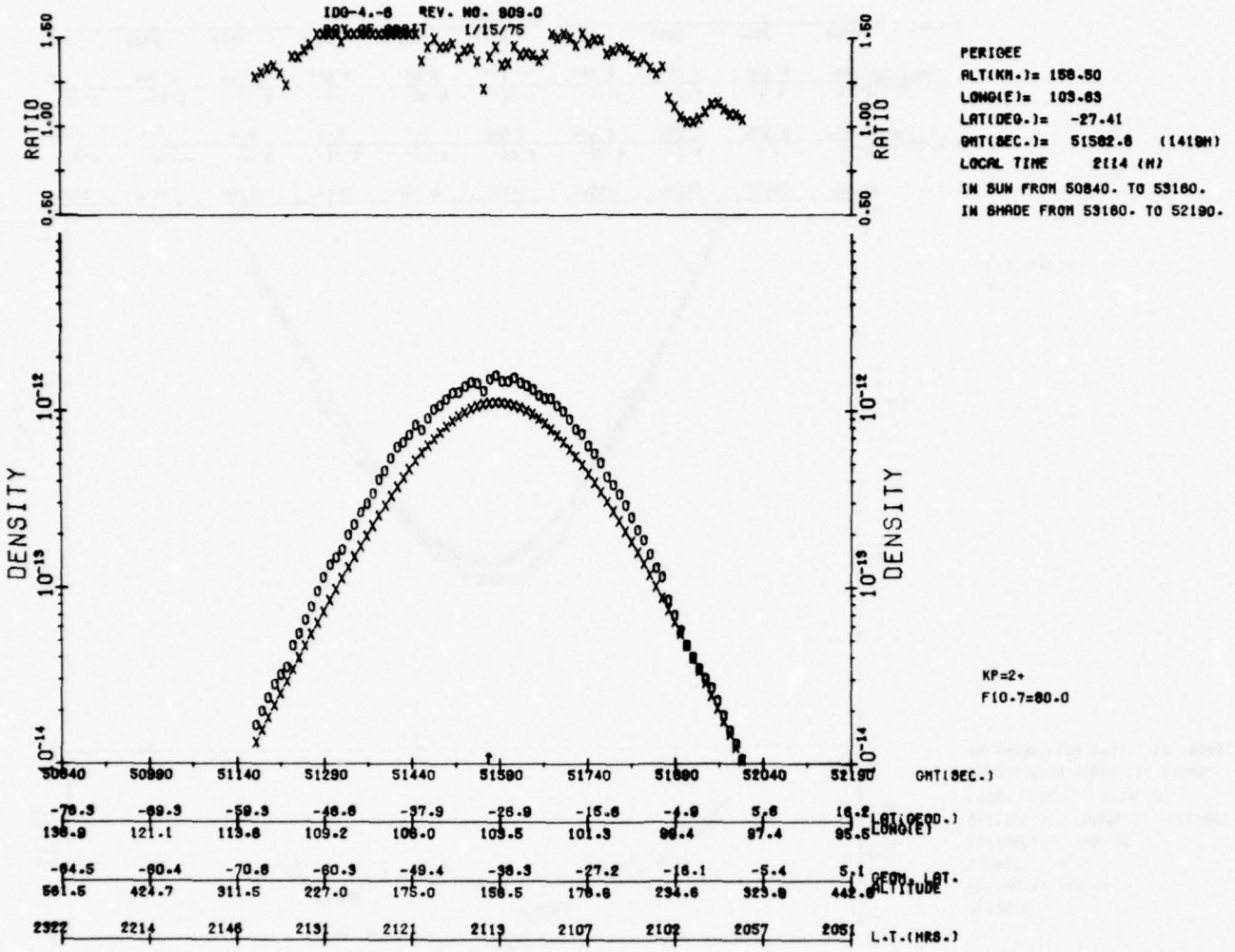
PERIGEE
ALT(KM.)= 157.93
LONG(E)= 4.82
LAT(DEG.)= -25.76
GMT(SEC.)= 75350.8 (2055H)
LOCAL TIME 2114 (H)
IN SUN FROM 74610. TO 76920.
IN SHADE FROM 76920. TO 75960.

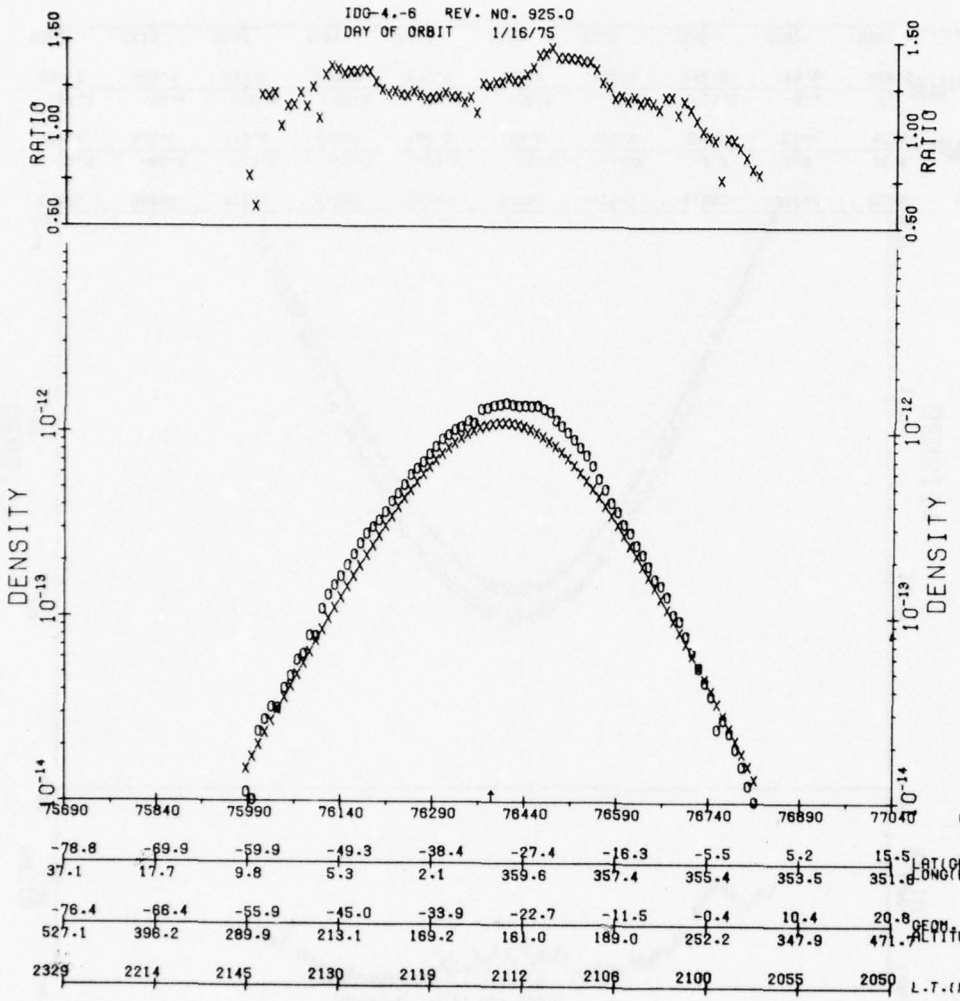
KP=5
F10.7=83.0



PERIGEE
ALT(KM.)= 158.10
LONG(E)= 277.60
LAT(DEG.)= -26.31
GMT(SEC.)= 9834.4 (0243H)
LOCAL TIME 2114 (H)
IN SUN FROM 9080. TO 11400.
IN SHADE FROM 11400. TO 10430.

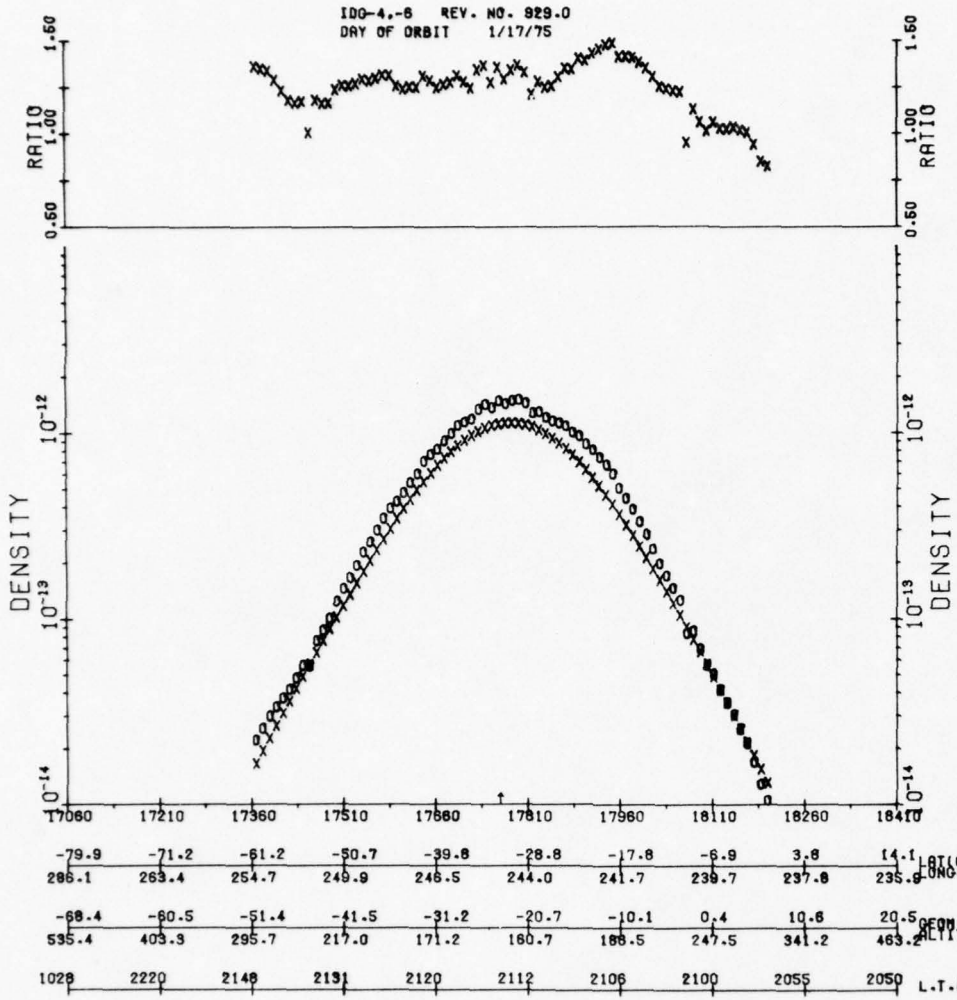
KP=5-
F10.7=80.0


IDG-4.-6 REV. NO. 809.0
1/15/75
RATIO
1.50
1.00
0.50
DENSITY
10^{-12}
10^{-13}
10^{-14}
50840 50990 51140 51290 51440 51590 51740 51890 52040 52190 GMT(SEC.)
-78.3 -69.3 -59.3 -48.6 -37.9 -26.9 -15.6 -4.9 5.6 16.2 LAT(DEGD.)
138.9 121.1 113.6 109.2 106.0 103.5 101.3 99.4 97.4 95.5 LONG(E)
-64.5 -60.4 -70.8 -60.3 -49.4 -38.3 -27.2 -16.1 -5.4 5.1 DEGD. LAT.
561.5 424.7 311.5 227.0 175.0 158.5 170.6 234.6 325.9 442.6 ALTITUDE
2322 2214 2146 2131 2121 2113 2107 2102 2057 2051 L.T.(HRS.)
PERIGEE
ALT(KM.)= 158.50
LONG(E)= 103.63
LAT(DEG.)= -27.41
GMT(SEC.)= 51582.8 (1418H)
LOCAL TIME 2114 (H)
IN SUN FROM 50840. TO 53160.
IN SHADE FROM 53160. TO 52190.
KP=2+
F10.7=80.0



PERIGEE
ALT(KM.)= 159.64
LONG(E)= 0.21
LAT(DEG.)= -30.38
GMT(SEC.)= 76399.2 (2113H)
LOCAL TIME 2114 (H)
IN SUN FROM 75690. TO 77940.
IN SHADE FROM 77940. TO 77040.

KP=4-
F10.7=80.0



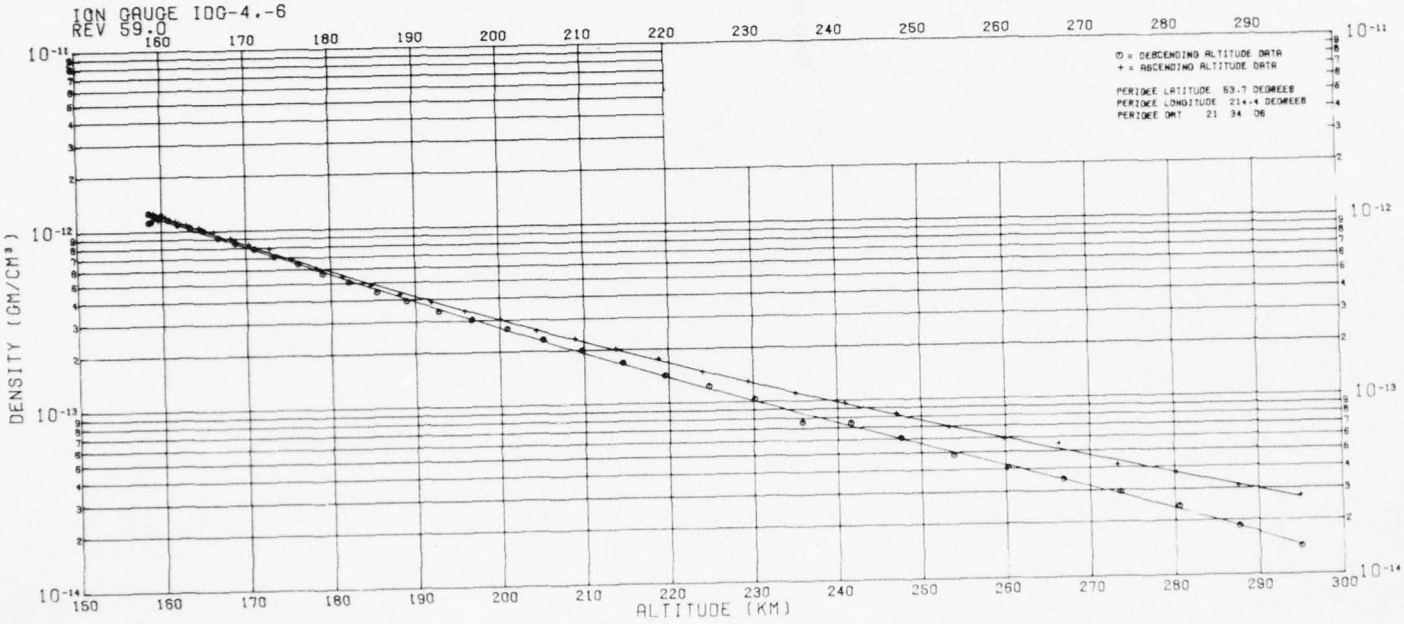
PERIGEE
ALT(KM.)= 159.94
LONG(E)= 244.46
LAT(DEG.)= -31.11
GMT(SEC.)= 17778.3 (0456H)
LOCAL TIME 2114 (H)
IN SUN FROM 17060. TO 19320.
IN SHADE FROM 19320. TO 18410.

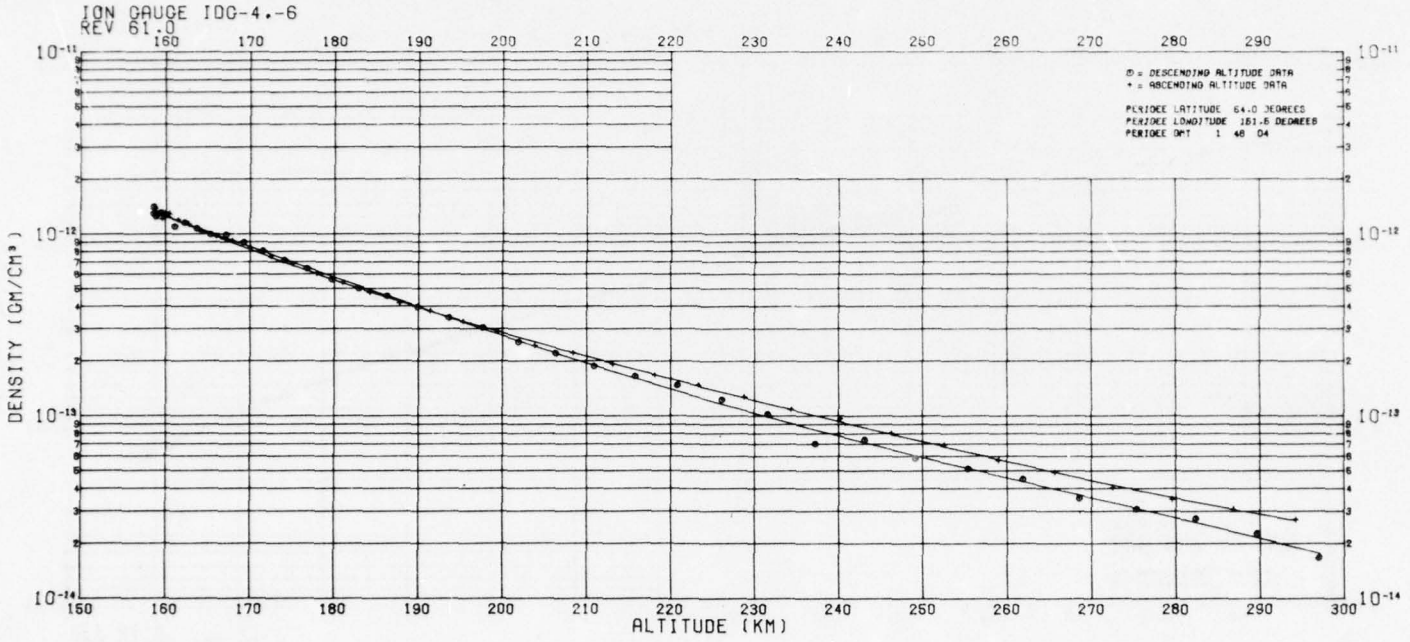
KP=4+
F10.7=79.0

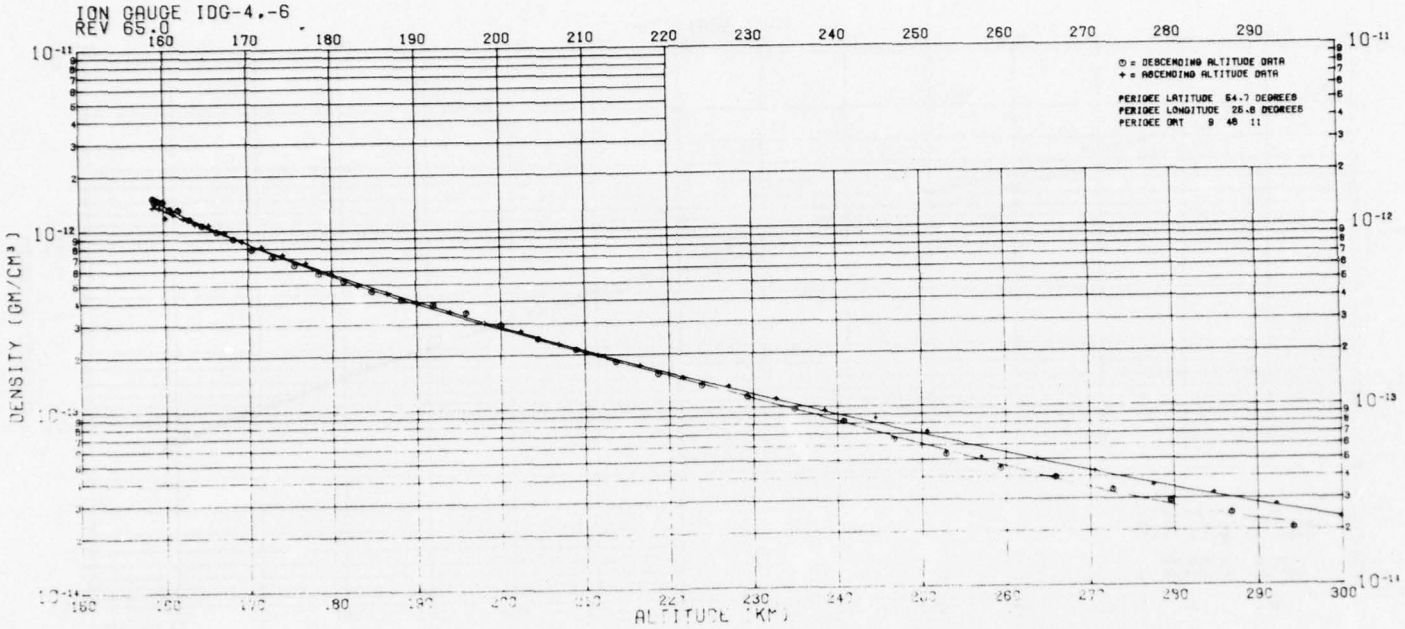
PRECEDING PAGE BLANK-NOT FILMED

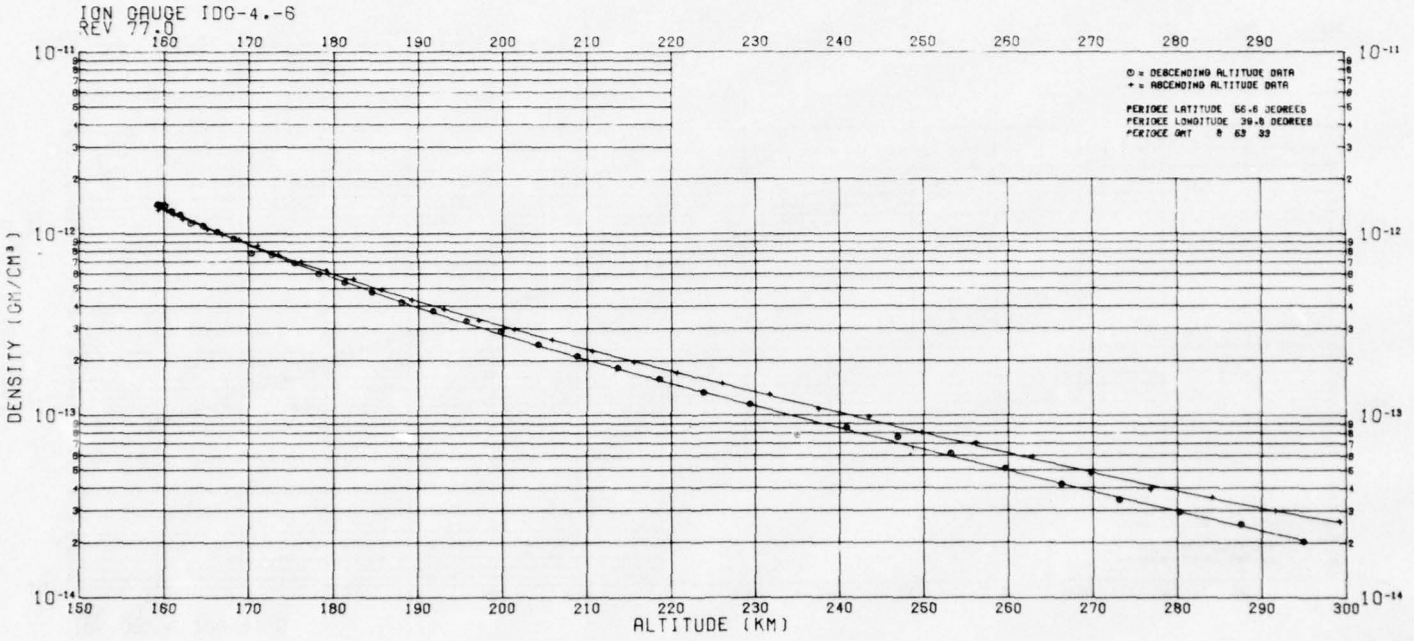
Appendix B

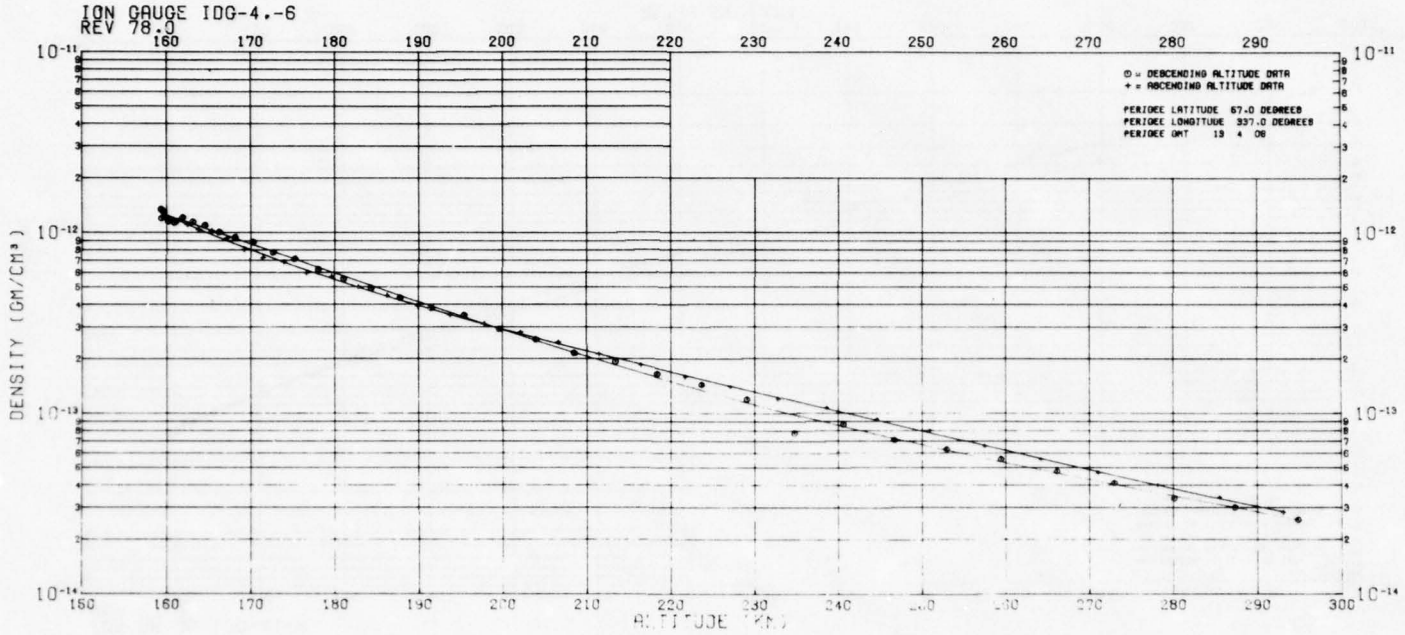
Plots of Density vs Altitude

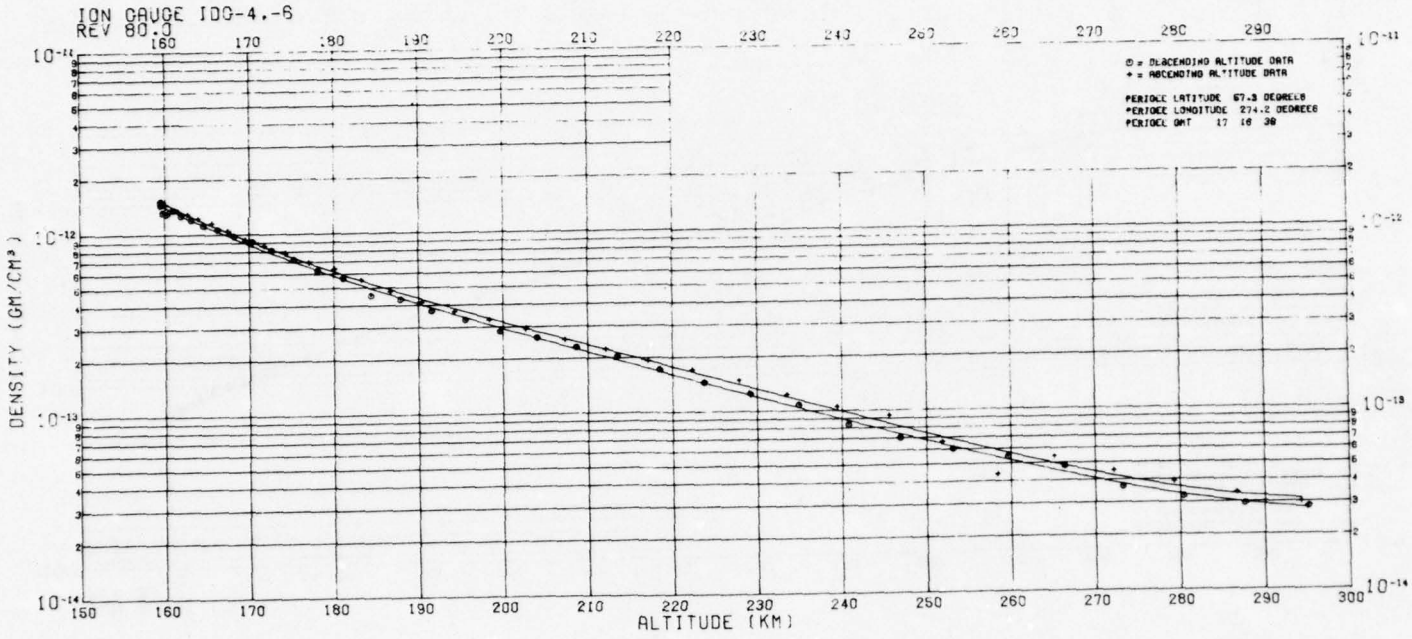

ION GAUGE IOG-4.-6
REV 59.0
⊙ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 53.7 DEGREES
PERIGEE LONGITUDE 214.4 DEGREES
PERIGEE GMT 21 34 06
DENSITY (GM/CM³)
ALTITUDE (KM)

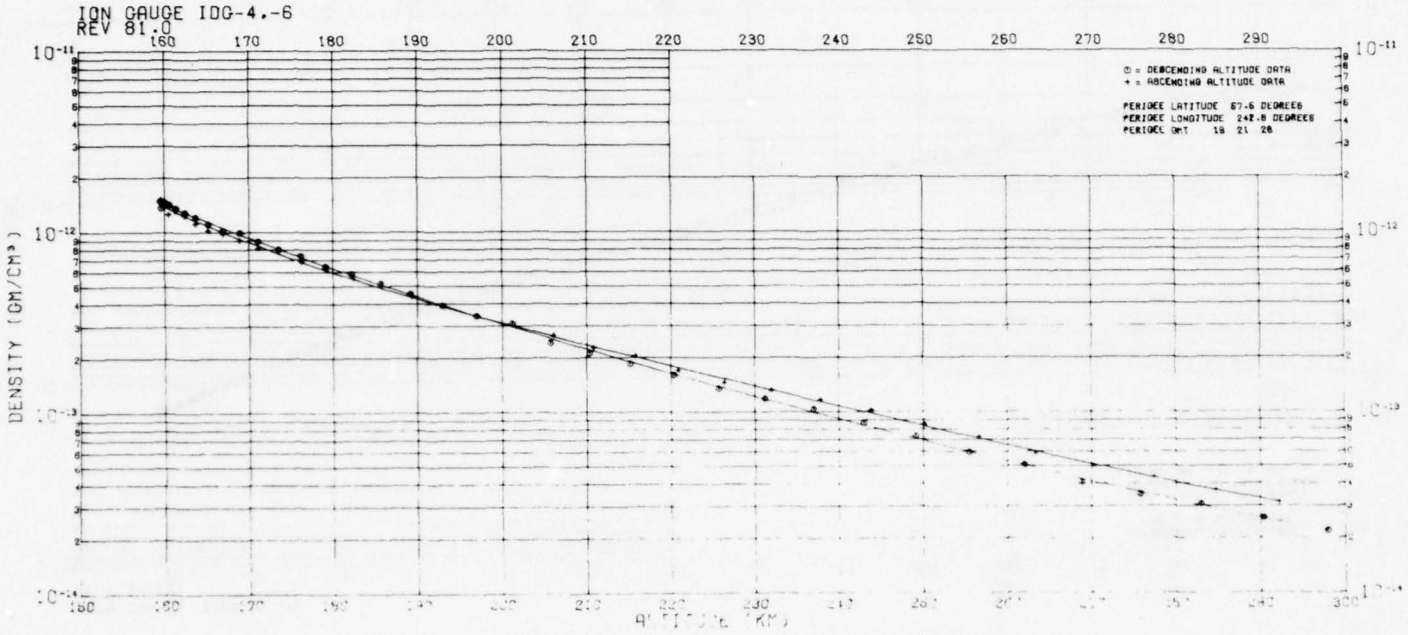

ION GAUGE IDG-4.-6
REV 61.0
@ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 64.0 DEGREES
PERIGEE LONGITUDE 161.6 DEGREES
PERIGEE GMT 1 48 04
DENSITY (GM/CM³)
ALTITUDE (KM)
10⁻¹¹
10⁻¹²
10⁻¹³
10⁻¹⁴
150
160
170
180
190
200
210
220
230
240
250
260
270
280
290
300

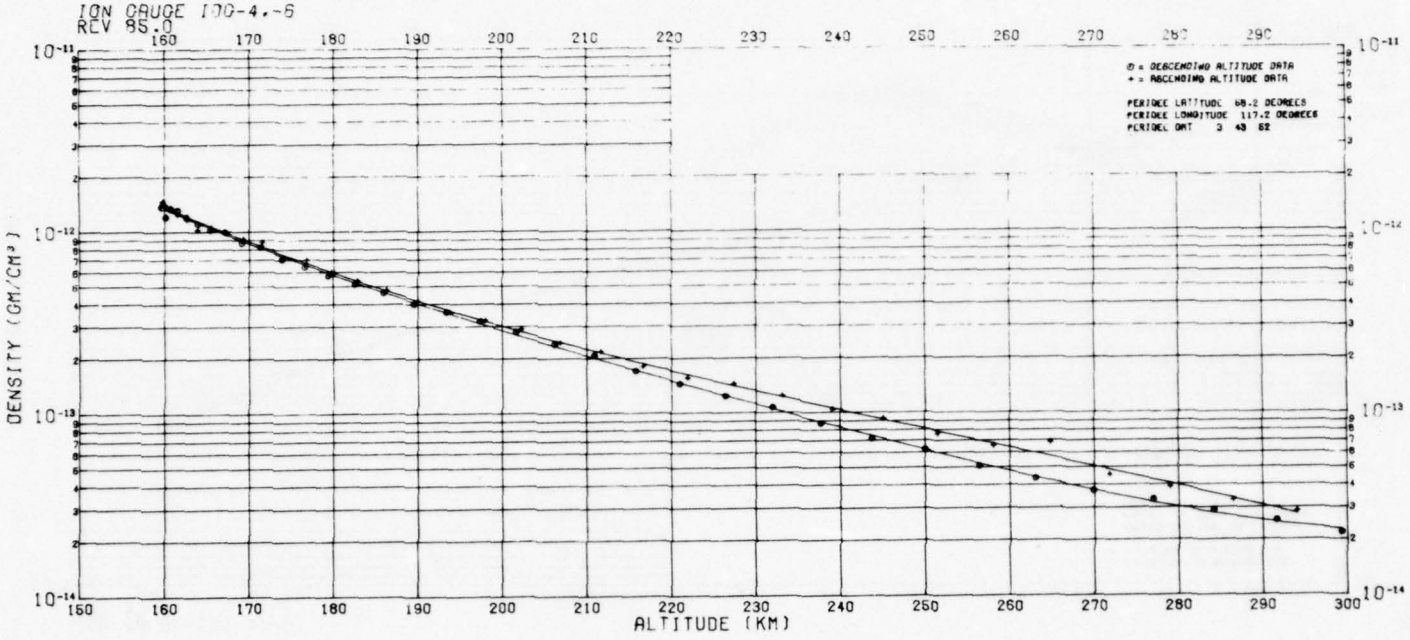

ION GAUGE IDG-4,-6
REV 65.0
⊙ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 64.7 DEGREES
PERIGEE LONGITUDE 26.8 DEGREES
PERIGEE GMT 9 48 11
DENSITY (GM/CM³)
ALTITUDE (KM)

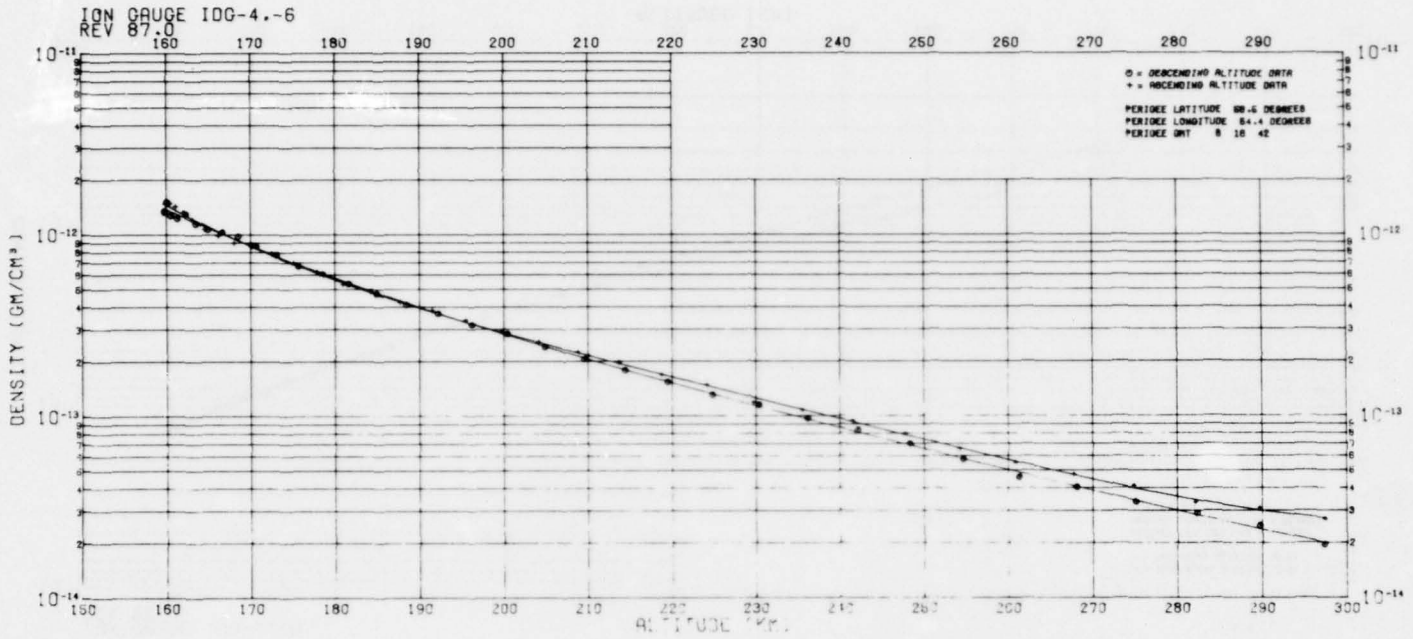

ION GAUGE IDG-4.-6
REV 77.0
⊙ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 66.6 DEGREES
PERIGEE LONGITUDE 39.8 DEGREES
PERIGEE GMT 0 63 33
DENSITY (GM/CM³)
ALTITUDE (KM)
10⁻¹¹
10⁻¹²
10⁻¹³
10⁻¹⁴
150
160
170
180
190
200
210
220
230
240
250
260
270
280
290
300

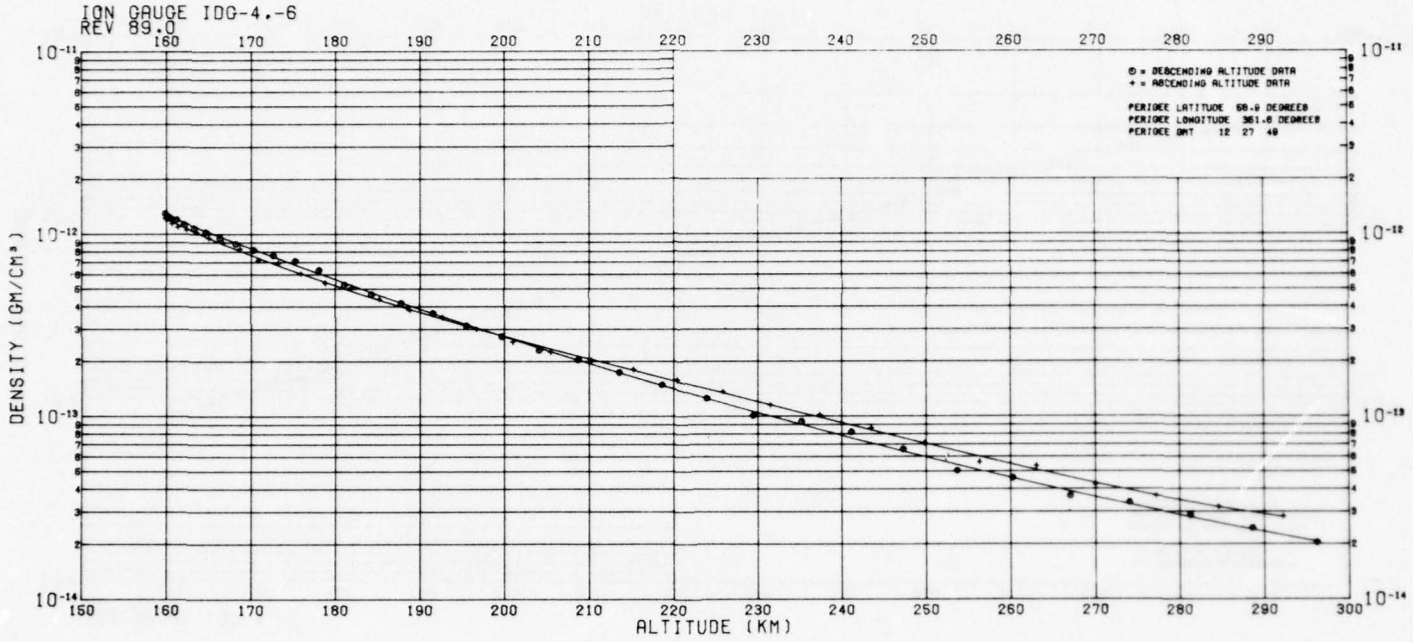

ION GAUGE IDG-4.-6
REV 78.0
⊙ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 67.0 DEGREES
PERIGEE LONGITUDE 337.0 DEGREES
PERIGEE GMT 19 4 08
DENSITY (GM/CM³)
ALTITUDE (KM)

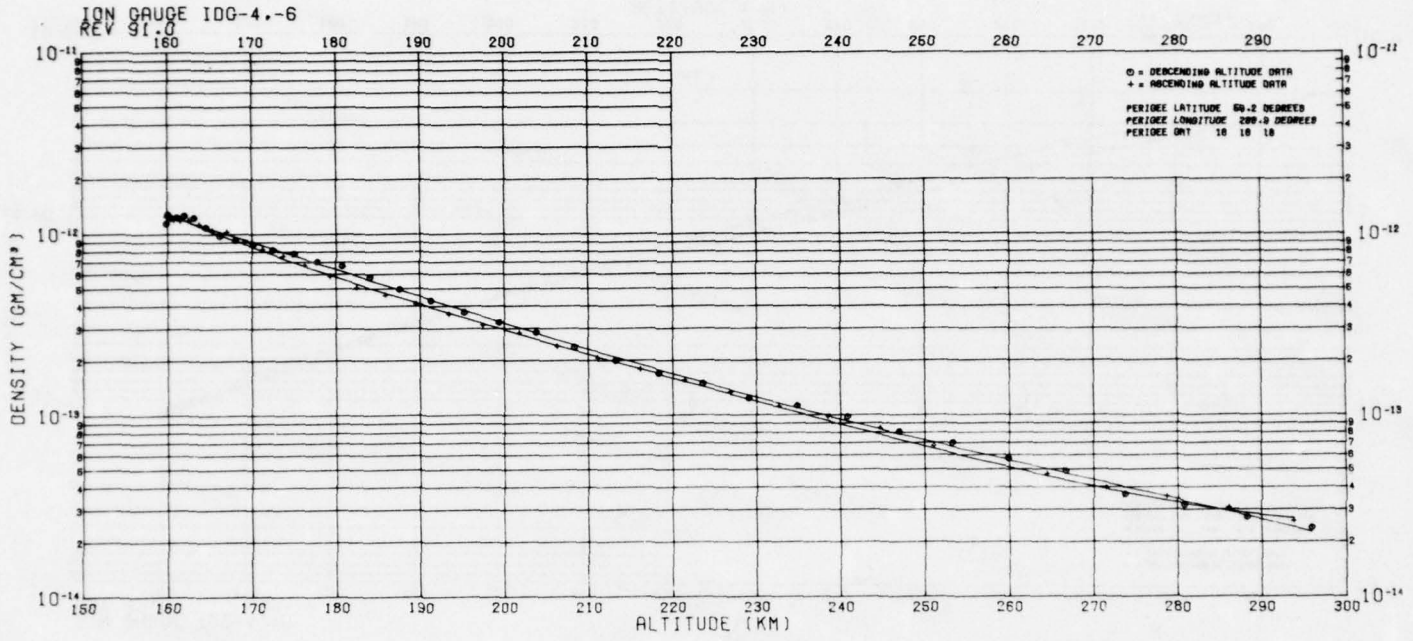

ION GAUGE IDG-4,-6
REV 80.0
160 170 180 190 200 210 220 230 240 250 260 270 280 290
10⁻¹¹
10⁻¹²
10⁻¹³
10⁻¹⁴
DENSITY (GM/CM³)
150 160 170 180 190 200 210 220 230 240 250 260 270 280 290 300
ALTITUDE (KM)
o = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 67.3 DEGREES
PERIGEE LONGITUDE 274.2 DEGREES
PERIGEE GMT 17 16 30

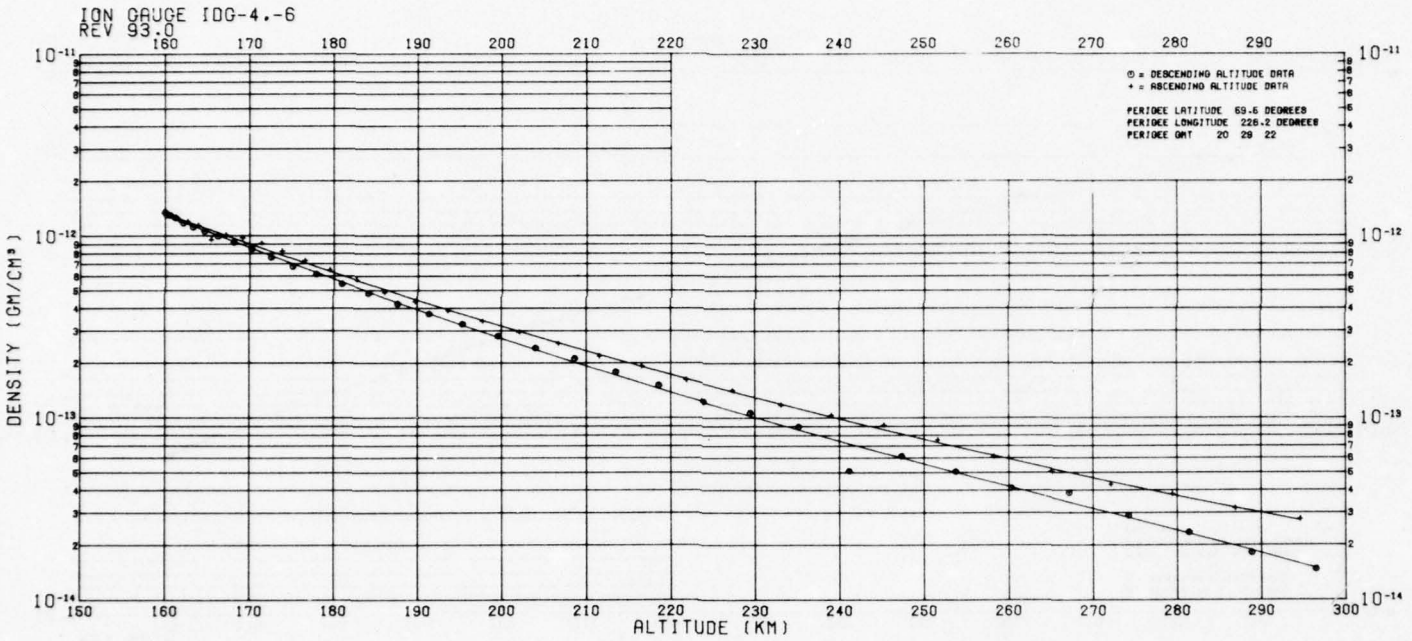

ION GAUGE IDG-4.-6
REV 81.0
DENSITY (GM/CM³)
ALTITUDE (KM)
○ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 67.6 DEGREES
PERIGEE LONGITUDE 242.8 DEGREES
PERIGEE GMT 18 21 28

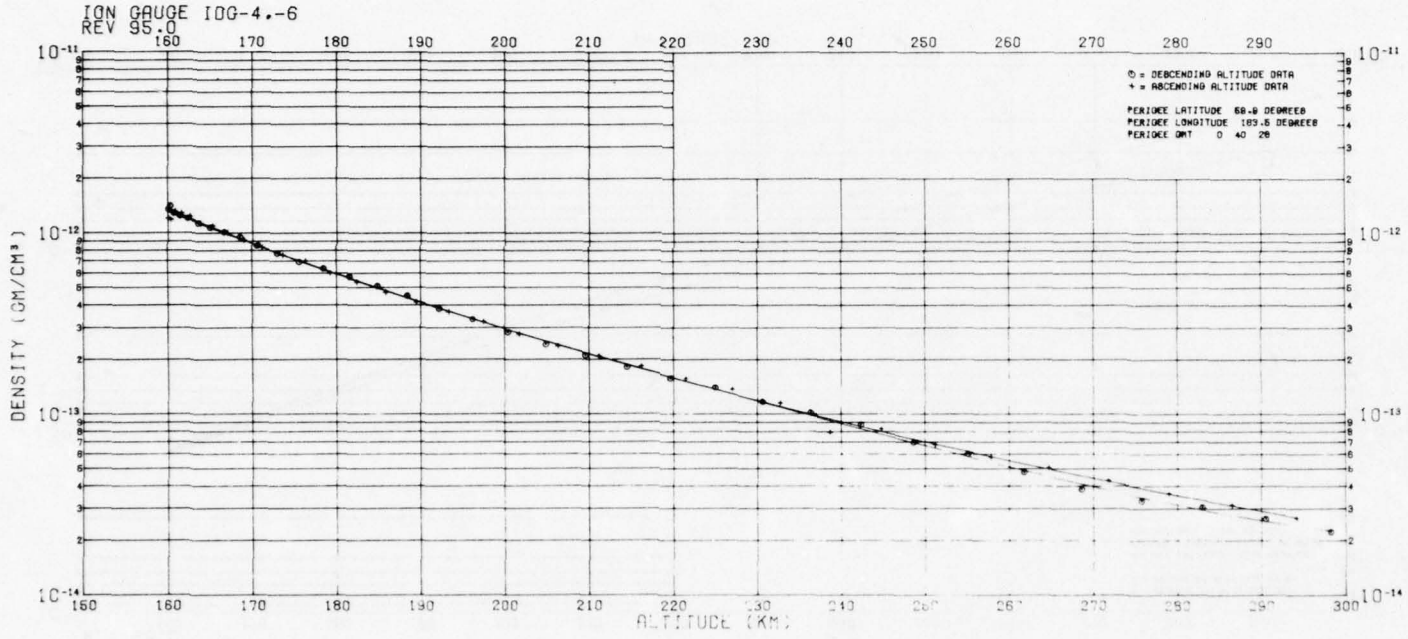

ION GAUGE 100-4,-6
REV 85.0
DENSITY (GM/CM³)
ALTITUDE (KM)
150
160
170
180
190
200
210
220
230
240
250
260
270
280
290
300
10⁻¹¹
10⁻¹²
10⁻¹³
10⁻¹⁴
⊙ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 68.2 DEGREES
PERIGEE LONGITUDE 117.2 DEGREES
PERIGEE GMT 3 43 52

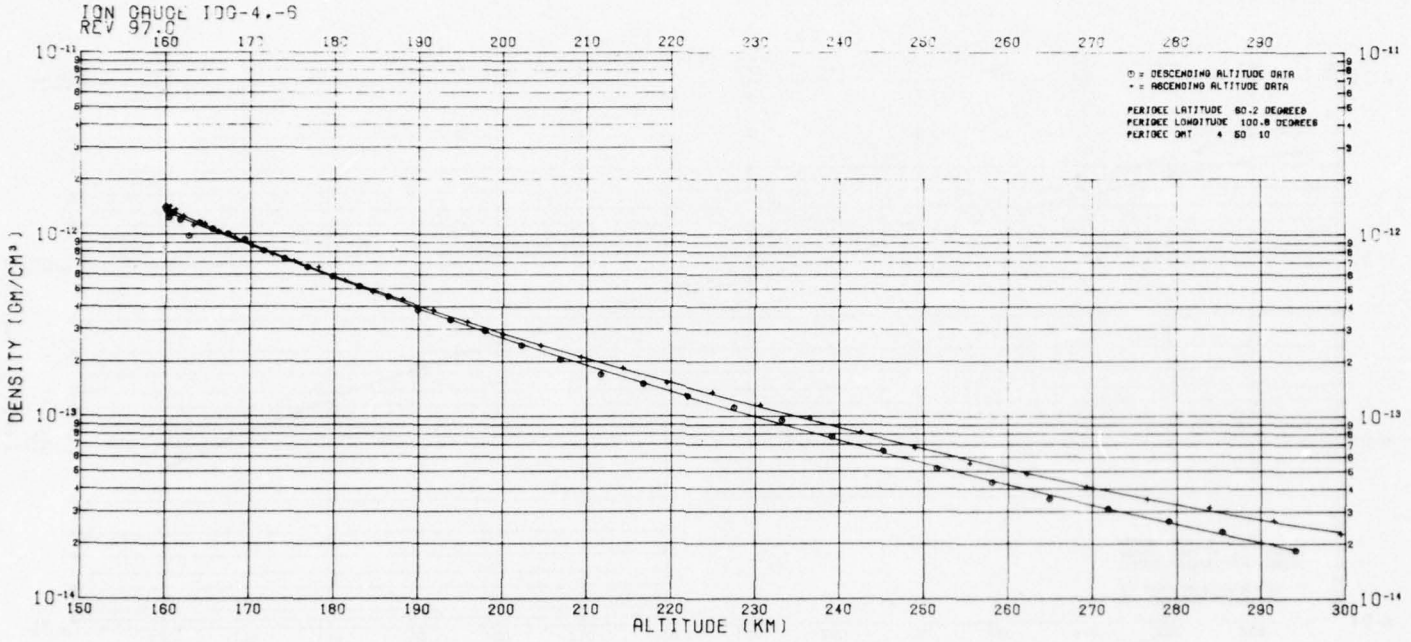

ION GAUGE IDG-4.-6
REV 87.0
O = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 68.6 DEGREES
PERIGEE LONGITUDE 64.4 DEGREES
PERIGEE GMT 0 18 42
DENSITY (GM/CM³)
ALTITUDE (KM)

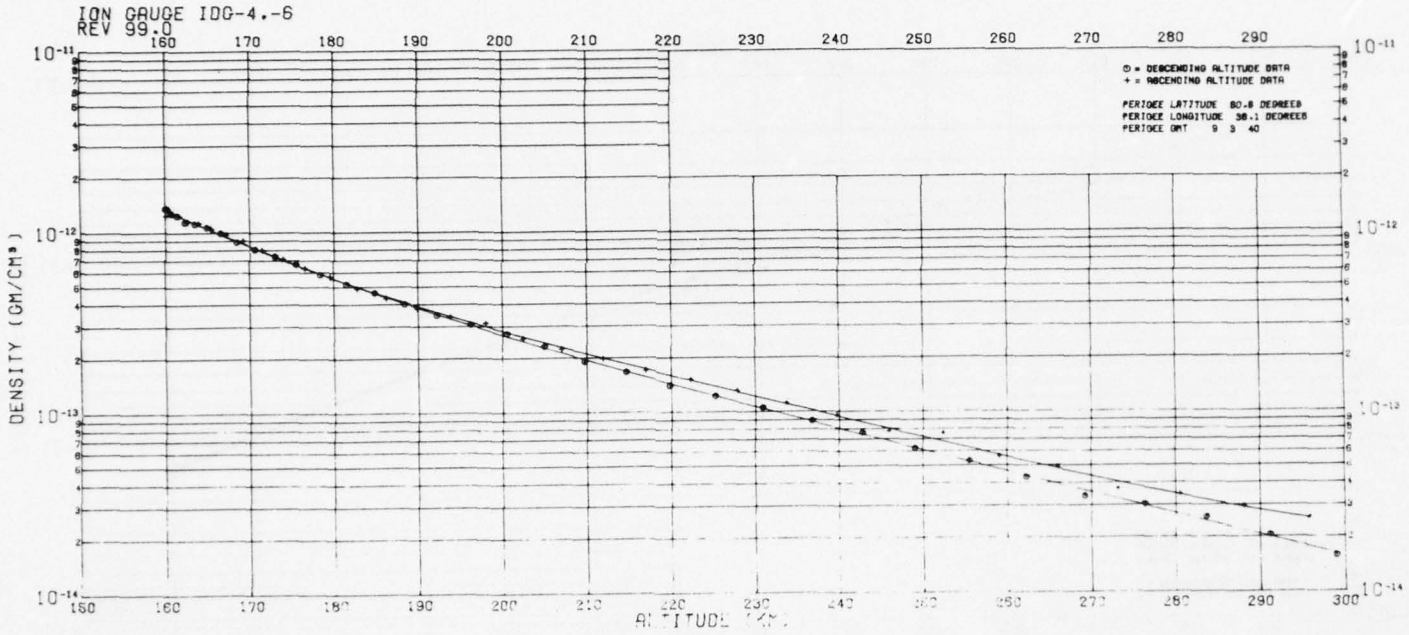

ION GAUGE IDG-4.-6
REV 89.0
⊖ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 68.9 DEGREES
PERIGEE LONGITUDE 361.6 DEGREES
PERIGEE GMT 12 27 49
DENSITY (GM/CM³)
ALTITUDE (KM)
10⁻¹¹
10⁻¹²
10⁻¹³
10⁻¹⁴
150
160
170
180
190
200
210
220
230
240
250
260
270
280
290
300

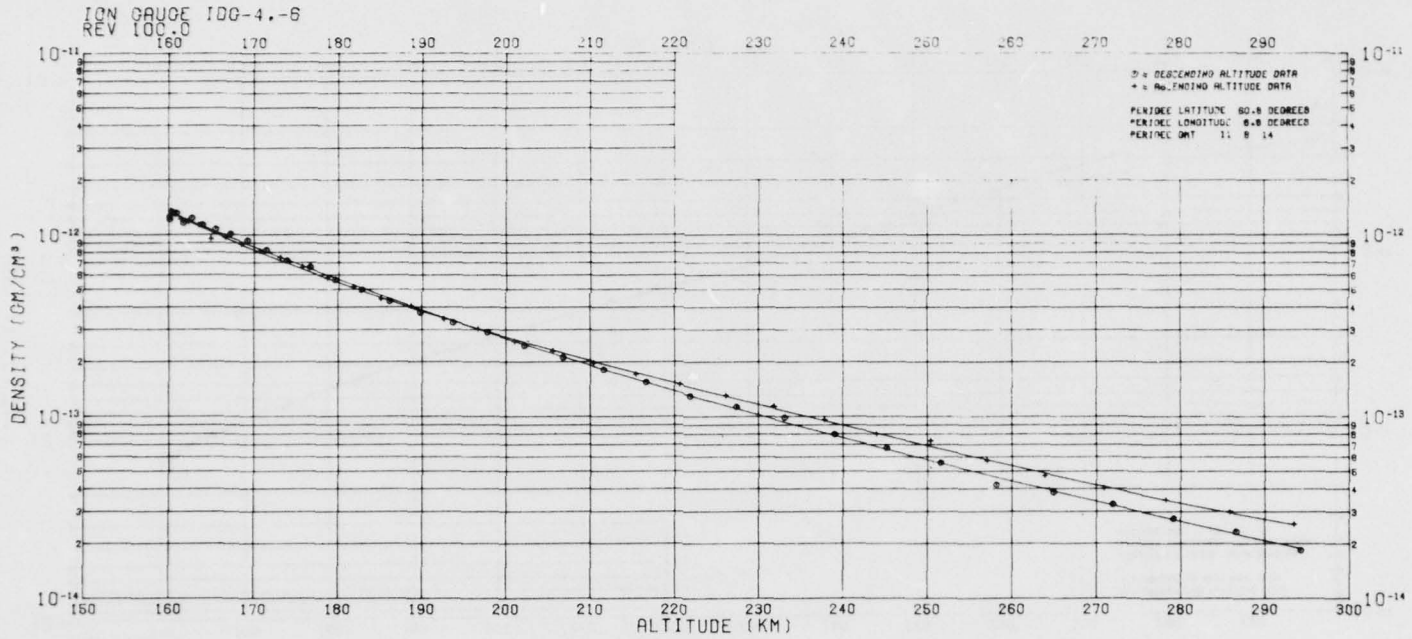

ION GAUGE IDG-4.-6
REV 91.0
⊙ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 69.2 DEGREES
PERIGEE LONGITUDE 289.9 DEGREES
PERIGEE GMT 18 18 18
DENSITY (GM/CM³)
ALTITUDE (KM)
150
160
170
180
190
200
210
220
230
240
250
260
270
280
290
300
10⁻¹¹
10⁻¹²
10⁻¹³
10⁻¹⁴

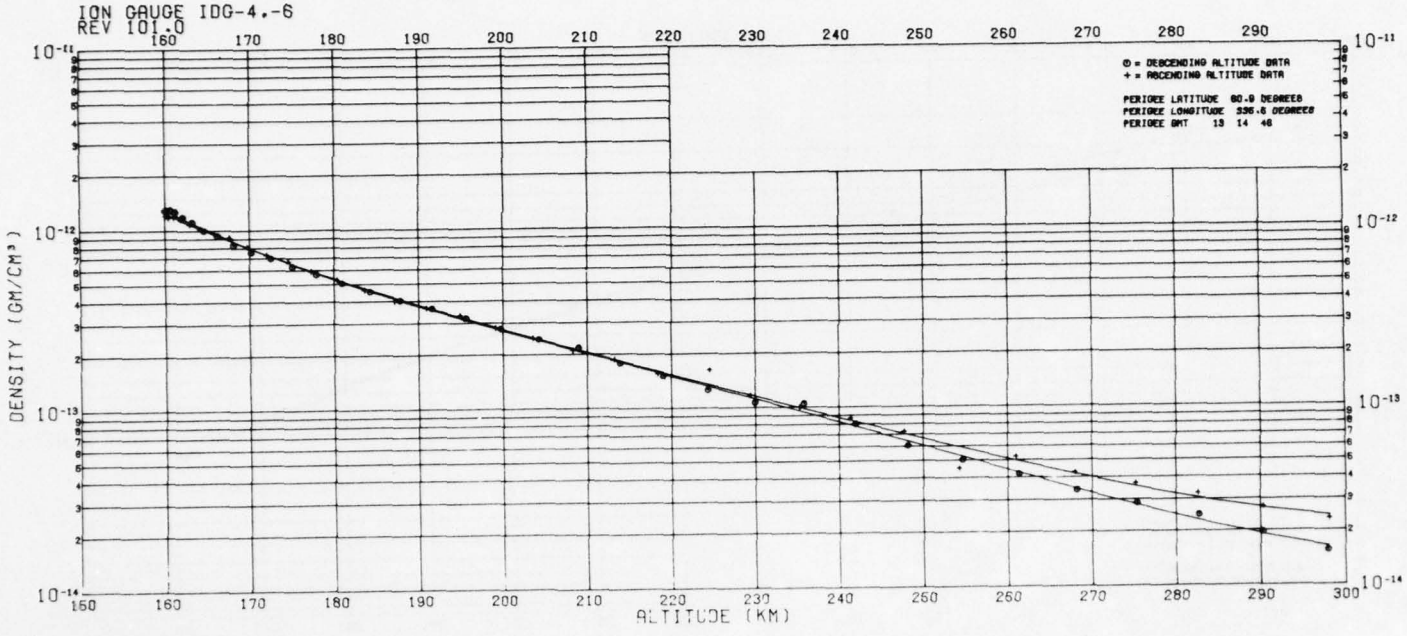

ION GAUGE IDG-4,-6
REV 93.0
⊙ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 69.6 DEGREES
PERIGEE LONGITUDE 226.2 DEGREES
PERIGEE GMT 20 29 22
DENSITY (GM/CM³)
ALTITUDE (KM)
10⁻¹¹
10⁻¹²
10⁻¹³
10⁻¹⁴
150
160
170
180
190
200
210
220
230
240
250
260
270
280
290
300

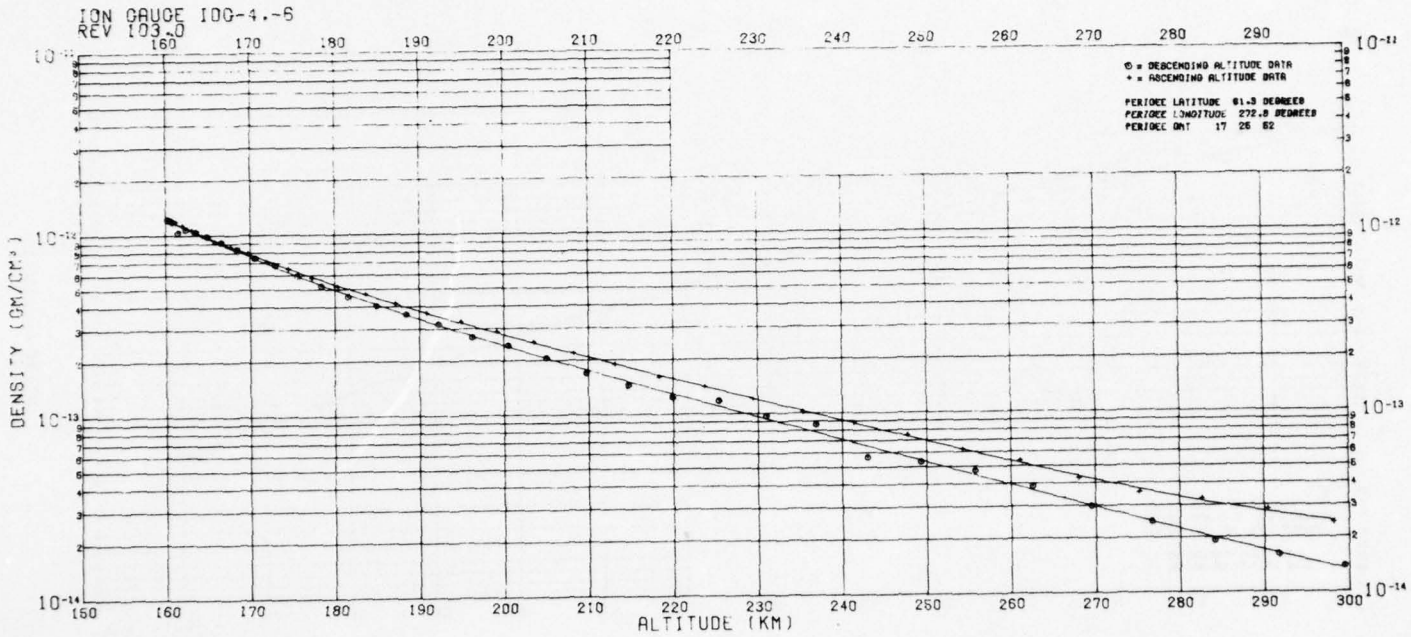

ION GAUGE IOG-4.-6
REV 95.0
© = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 68.8 DEGREES
PERIGEE LONGITUDE 183.5 DEGREES
PERIGEE GMT 0 40 28
DENSITY (GM/CM³)
ALTITUDE (KM)

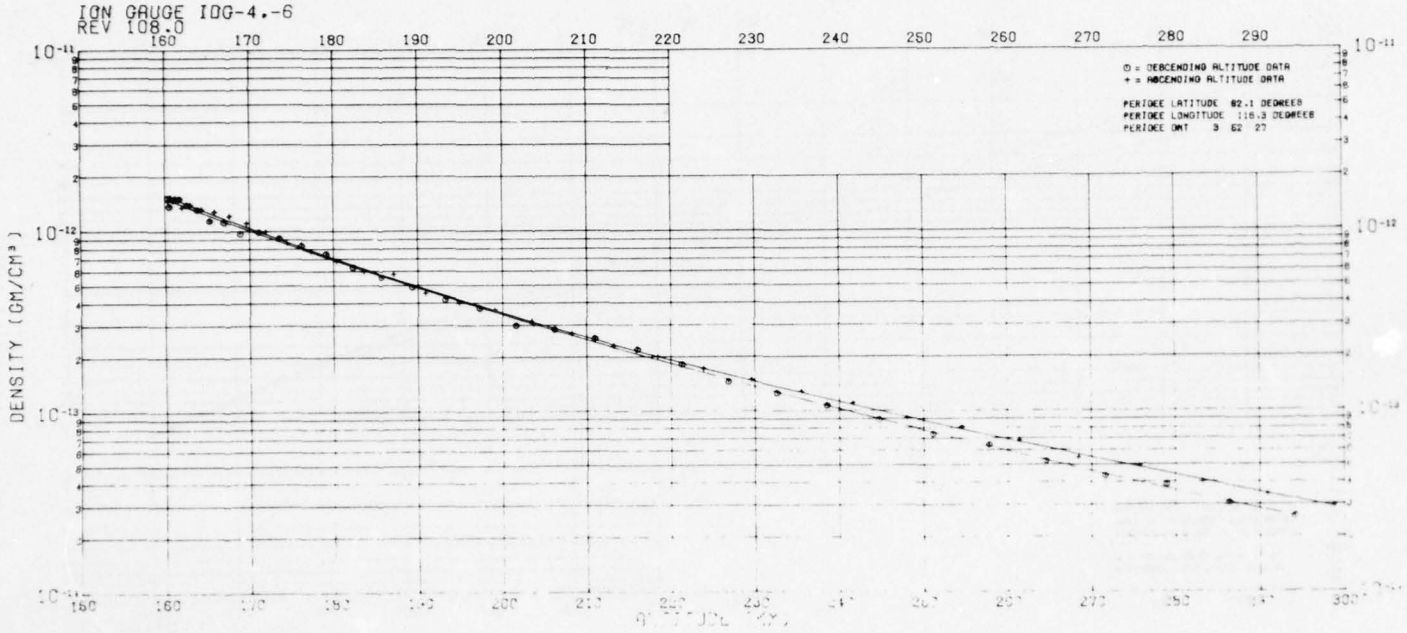

ION GAUGE IDG-4,-6
REV 97.0
⊙ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 60.2 DEGREES
PERIGEE LONGITUDE 100.8 DEGREES
PERIGEE GMT 4 50 10
DENSITY (GM/CM³)
ALTITUDE (KM)
10⁻¹¹
10⁻¹²
10⁻¹³
10⁻¹⁴
150
160
170
180
190
200
210
220
230
240
250
260
270
280
290
300

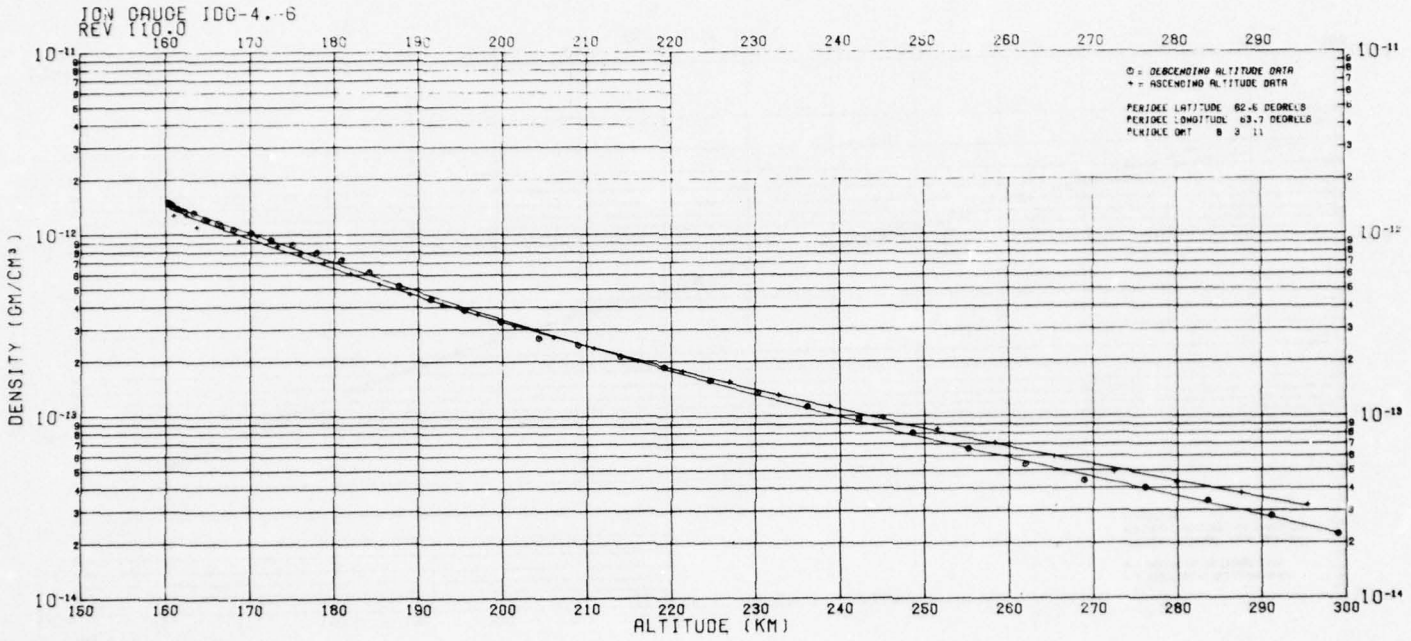

ION GAUGE IDG-4.-6
REV 99.0
DENSITY (GM/CM³)
ALTITUDE (KM)
⊙ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 80.8 DEGREES
PERIGEE LONGITUDE 38.1 DEGREES
PERIGEE GMT 9 3 40

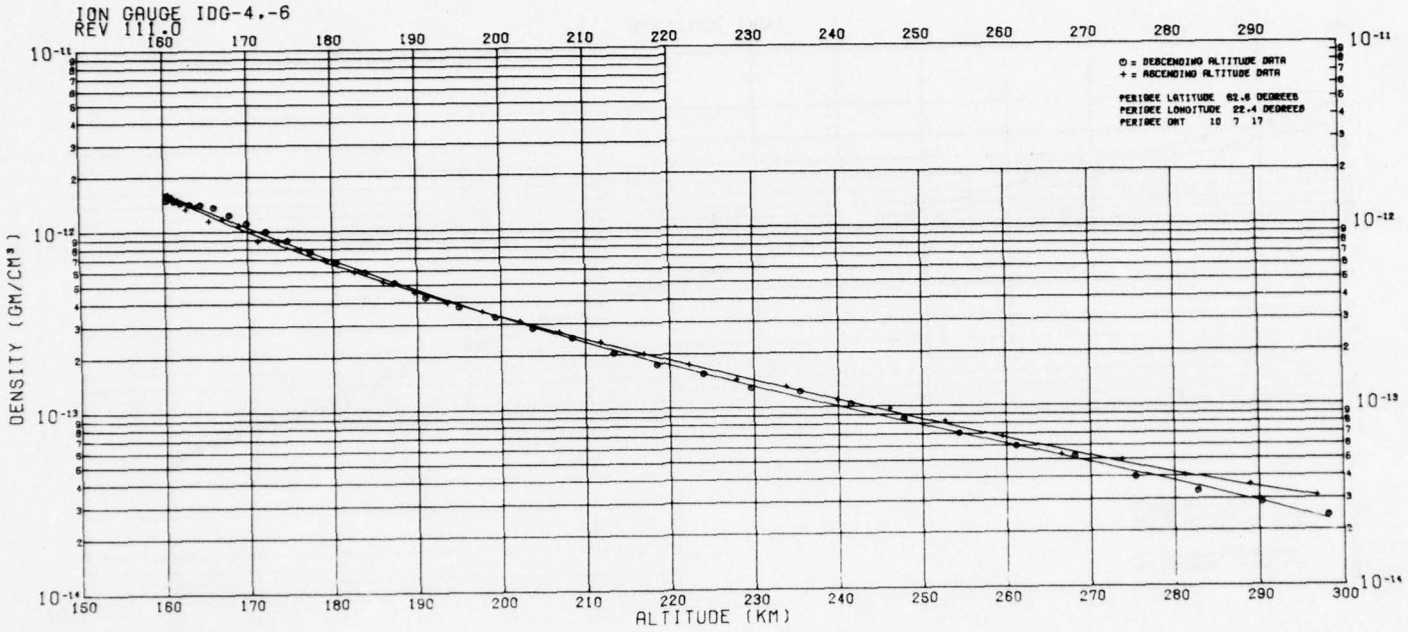

ION GAUGE IDG-4.-6
REV 10C.0
D = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIDEE LATITUDE 60.8 DEGREES
PERIDEE LONGITUDE 6.8 DEGREES
PERIREC DAT 11 8 14
DENSITY (GM/CM³)
ALTITUDE (KM)

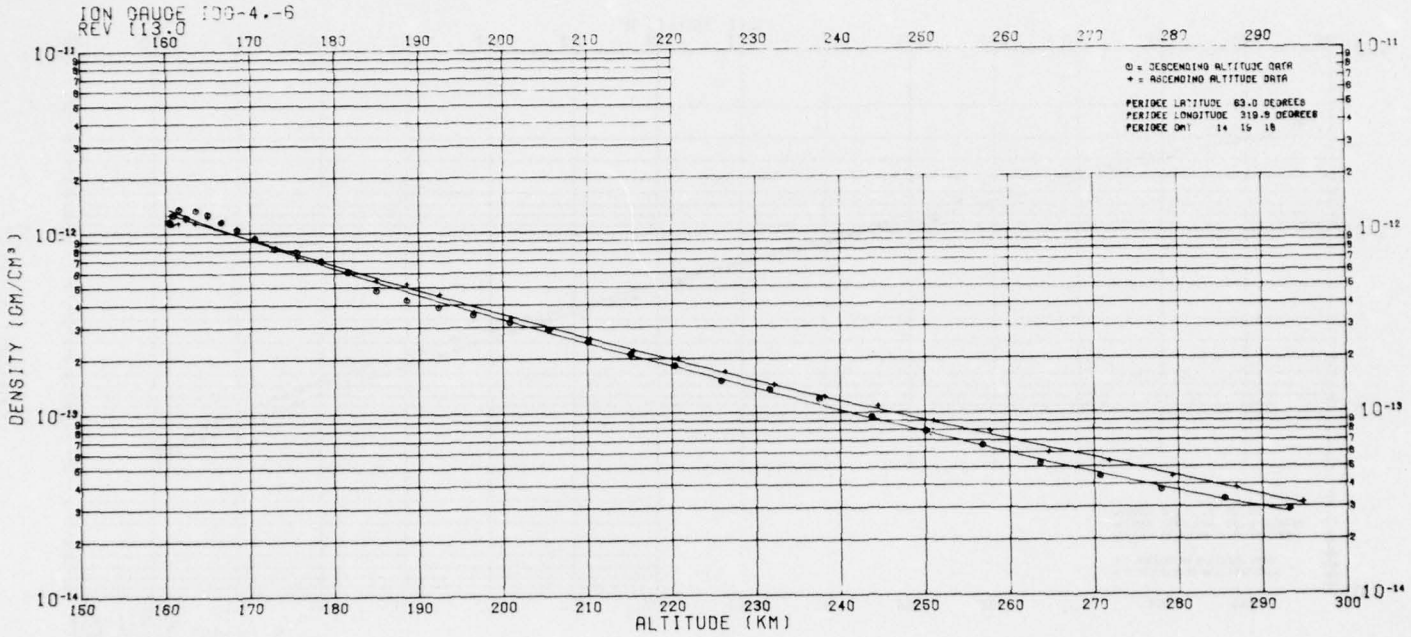

ION GAUGE IDG-4.-6
REV 101.0
DENSITY (GM/CM³)
ALTITUDE (KM)
© = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 80.8 DEGREES
PERIGEE LONGITUDE 336.6 DEGREES
PERIGEE GMT 13 14 46

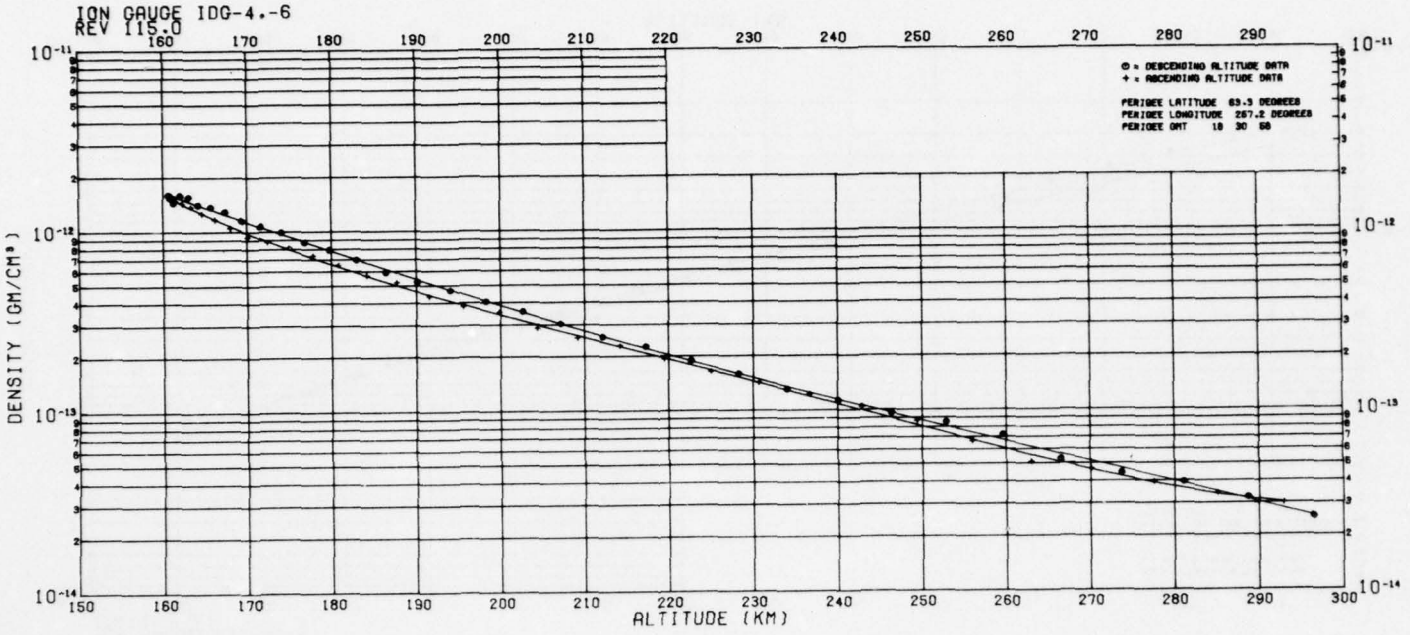

ION GAUGE IDG-4.-6
REV 103.0
DENSITY (GM/CM³)
ALTITUDE (KM)
© = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 81.9 DEGREES
PERIGEE LONGITUDE 272.8 DEGREES
PERIGEE GMT 17 25 52

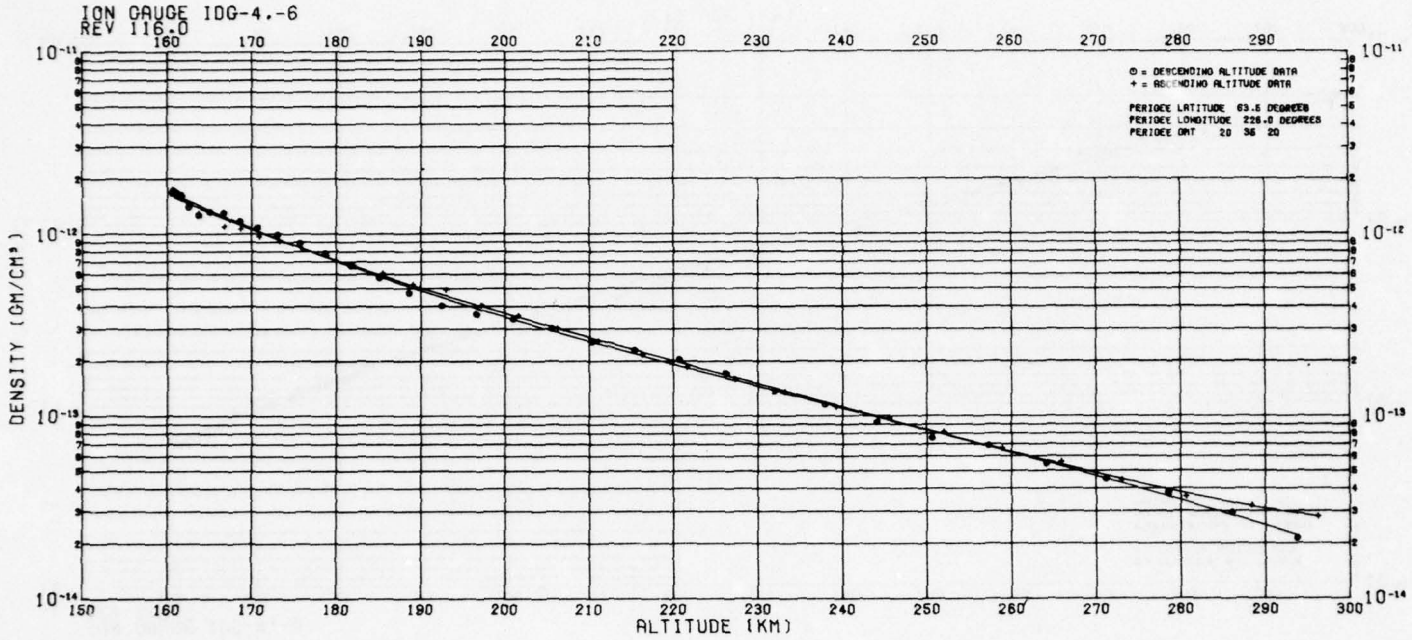

ION GAUGE IDG-4.-6
REV 108.0
160
170
180
190
200
210
220
230
240
250
260
270
280
290
10-11
10-12
10-13
DENSITY (GM/CM3)
⊙ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 82.1 DEGREES
PERIGEE LONGITUDE 116.3 DEGREES
PERIGEE GMT 3 62 27

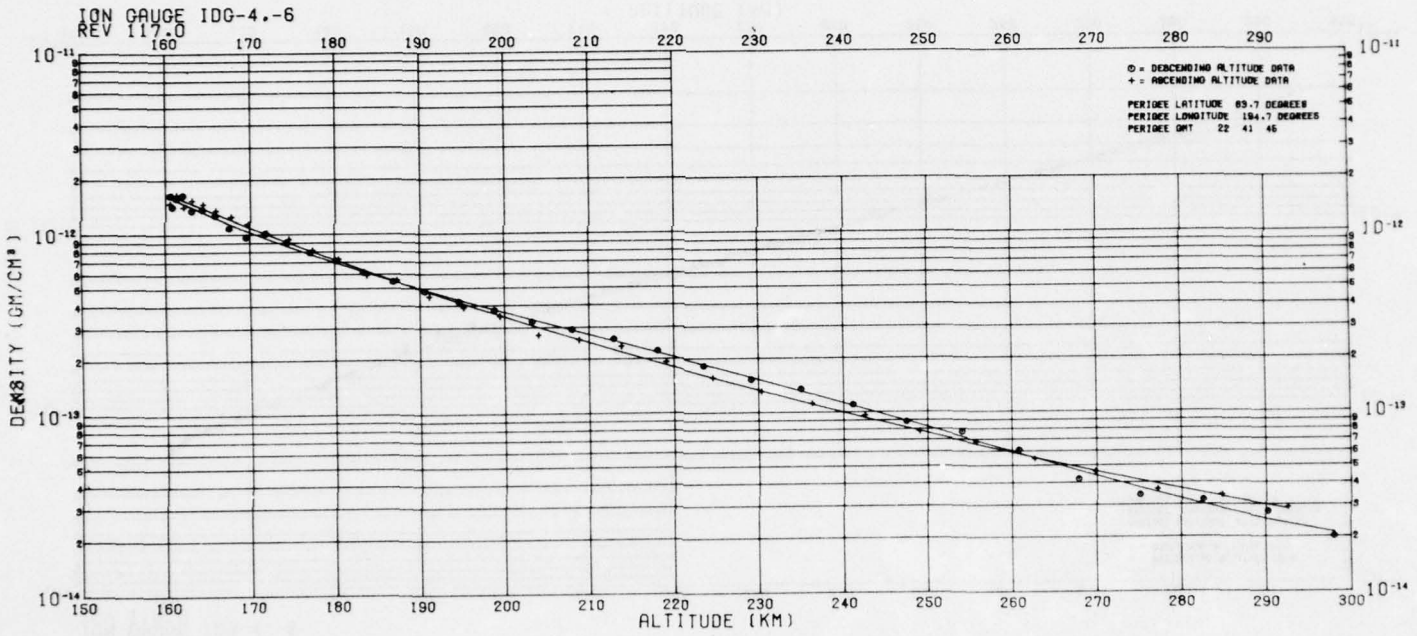

ION GAUGE IDG-4.-6
REV 110.0
⊙ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 62.6 DEGREES
PERIGEE LONGITUDE 63.7 DEGREES
PERIGEE GMT 8 3 11
DENSITY (GM/CM³)
ALTITUDE (KM)

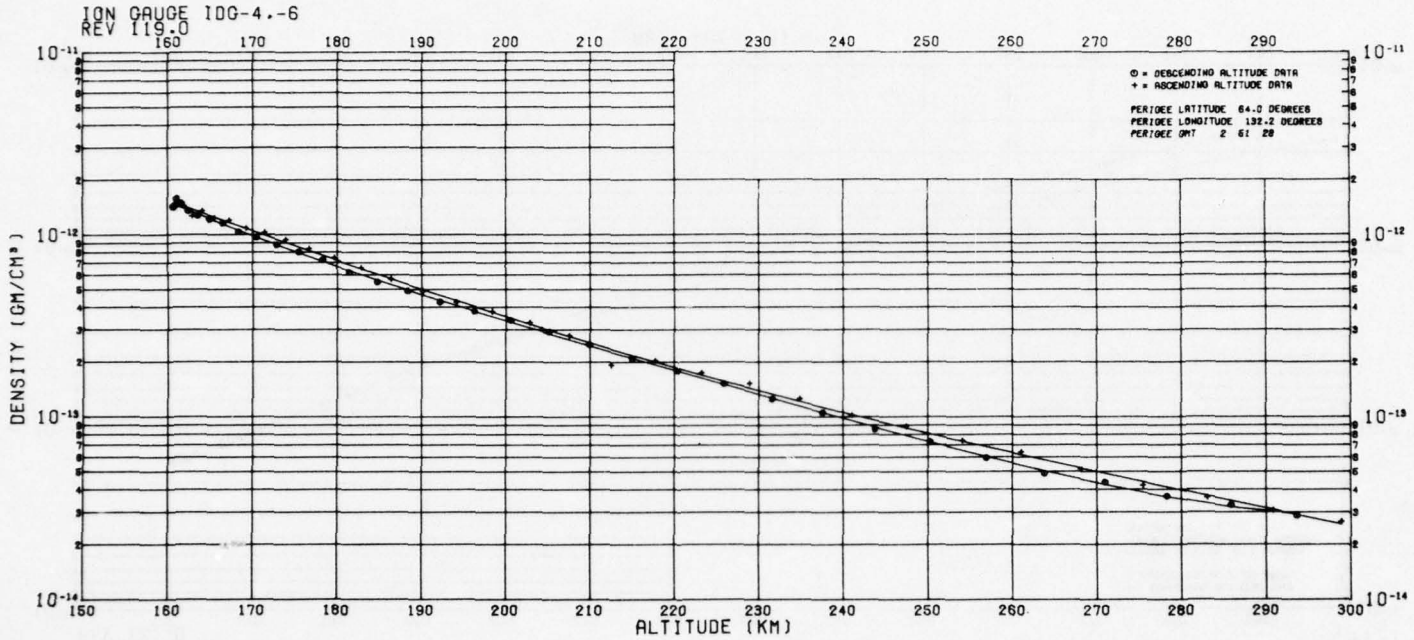

ION GAUGE IDG-4.-6
REV 111.0
DENSITY (GM/CM³)
ALTITUDE (KM)
© = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 62.6 DEGREES
PERIGEE LONGITUDE 22.4 DEGREES
PERIGEE GMT 10 7 17


ION GAUGE 100-4.-6
REV 113.0
⊙ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 63.0 DEGREES
PERIGEE LONGITUDE 319.9 DEGREES
PERIGEE GMT 14 16 18
DENSITY (GM/CM³)
ALTITUDE (KM)

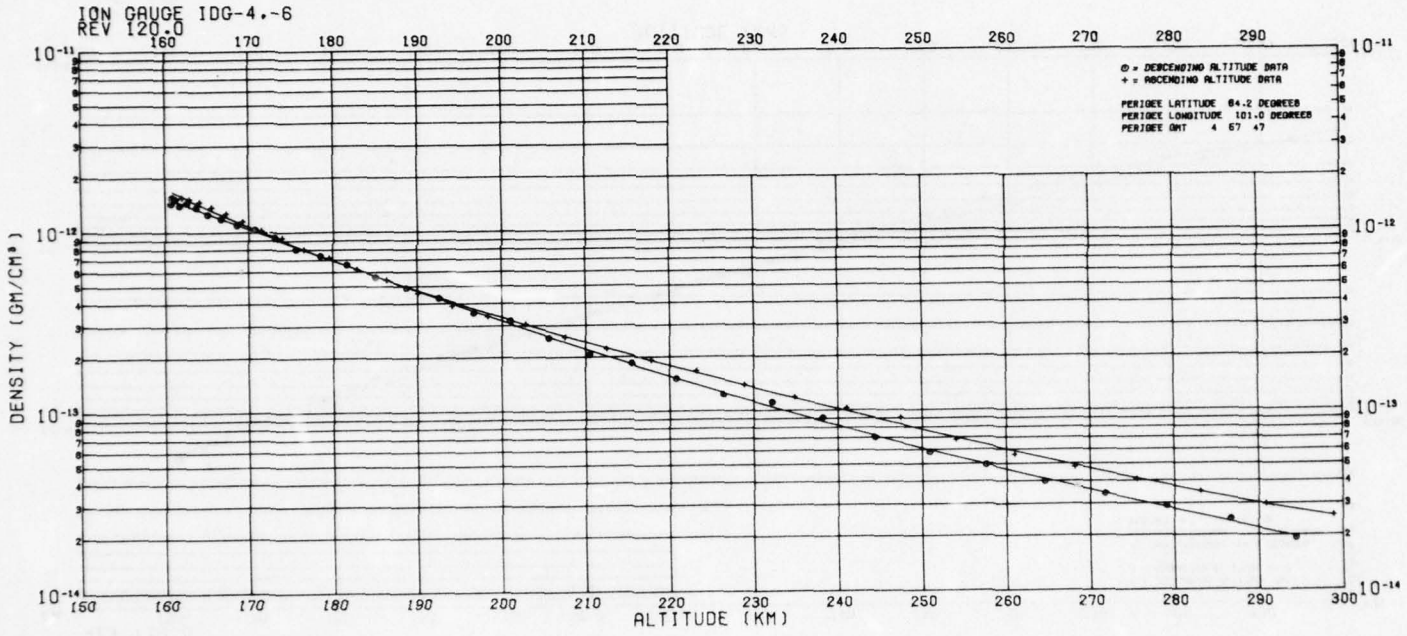

ION GAUGE IDG-4.-6
REV 115.0
⊙ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 63.3 DEGREES
PERIGEE LONGITUDE 257.2 DEGREES
PERIGEE GMT 18 30 58
DENSITY (GM/CM³)
ALTITUDE (KM)
10⁻¹¹
10⁻¹²
10⁻¹³
10⁻¹⁴
150
160
170
180
190
200
210
220
230
240
250
260
270
280
290
300

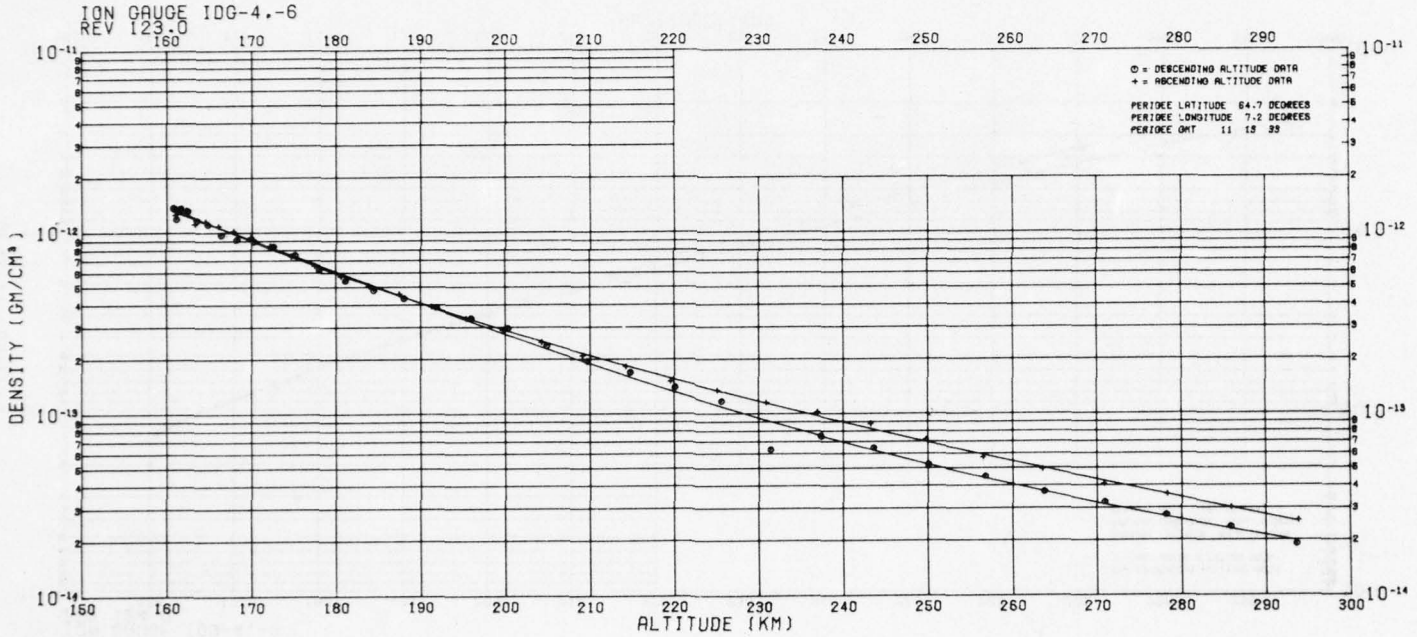

ION GAUGE IDG-4.-6
REV 116.0
⊙ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 63.6 DEGREES
PERIGEE LONGITUDE 226.0 DEGREES
PERIGEE GMT 20 36 20
DENSITY (GM/CM³)
ALTITUDE (KM)
150
160
170
180
190
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290
300

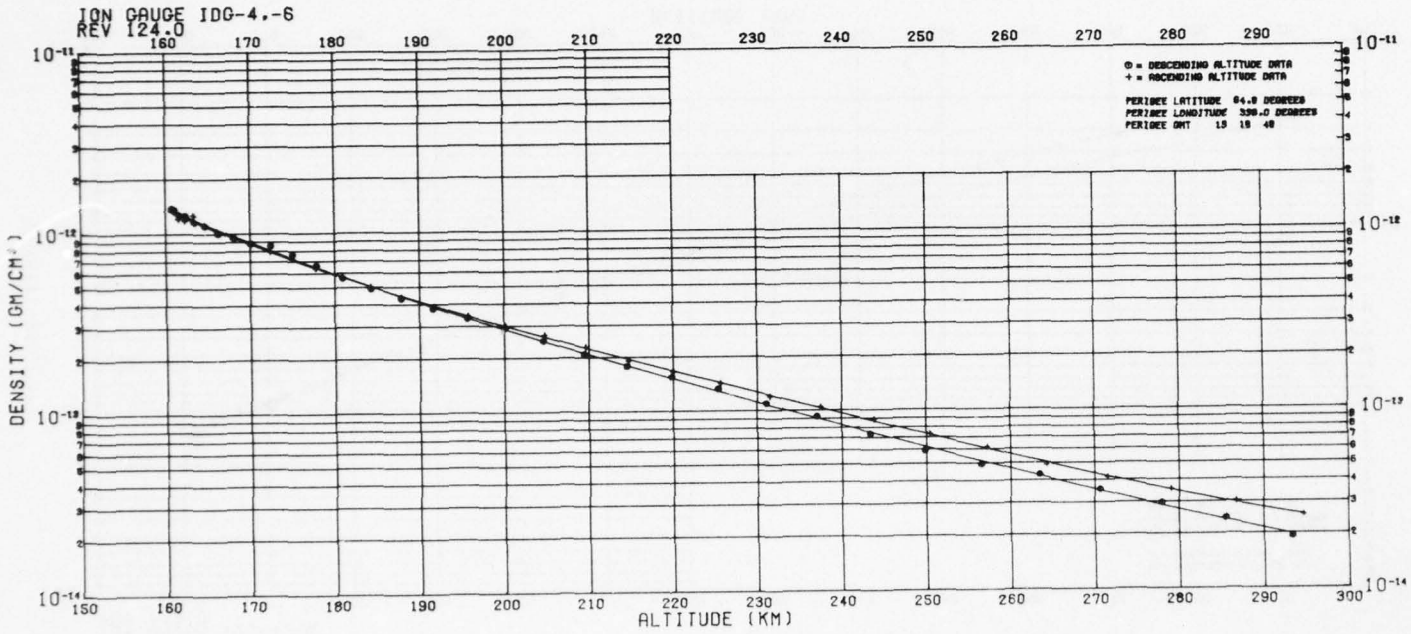

ION GAUGE IDG-4.-6
REV 117.0
⊙ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 89.7 DEGREES
PERIGEE LONGITUDE 194.7 DEGREES
PERIGEE GMT 22 41 46
DENSITY (GM/CM³)
ALTITUDE (KM)


ION GAUGE IDG-4.-6
REV 119.0
⊙ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 64.0 DEGREES
PERIGEE LONGITUDE 132.2 DEGREES
PERIGEE GMT 2 61 28
DENSITY (GM/CM³)
ALTITUDE (KM)
10⁻¹¹
10⁻¹²
10⁻¹³
10⁻¹⁴
150
160
170
180
190
200
210
220
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250
260
270
280
290
300

16-219

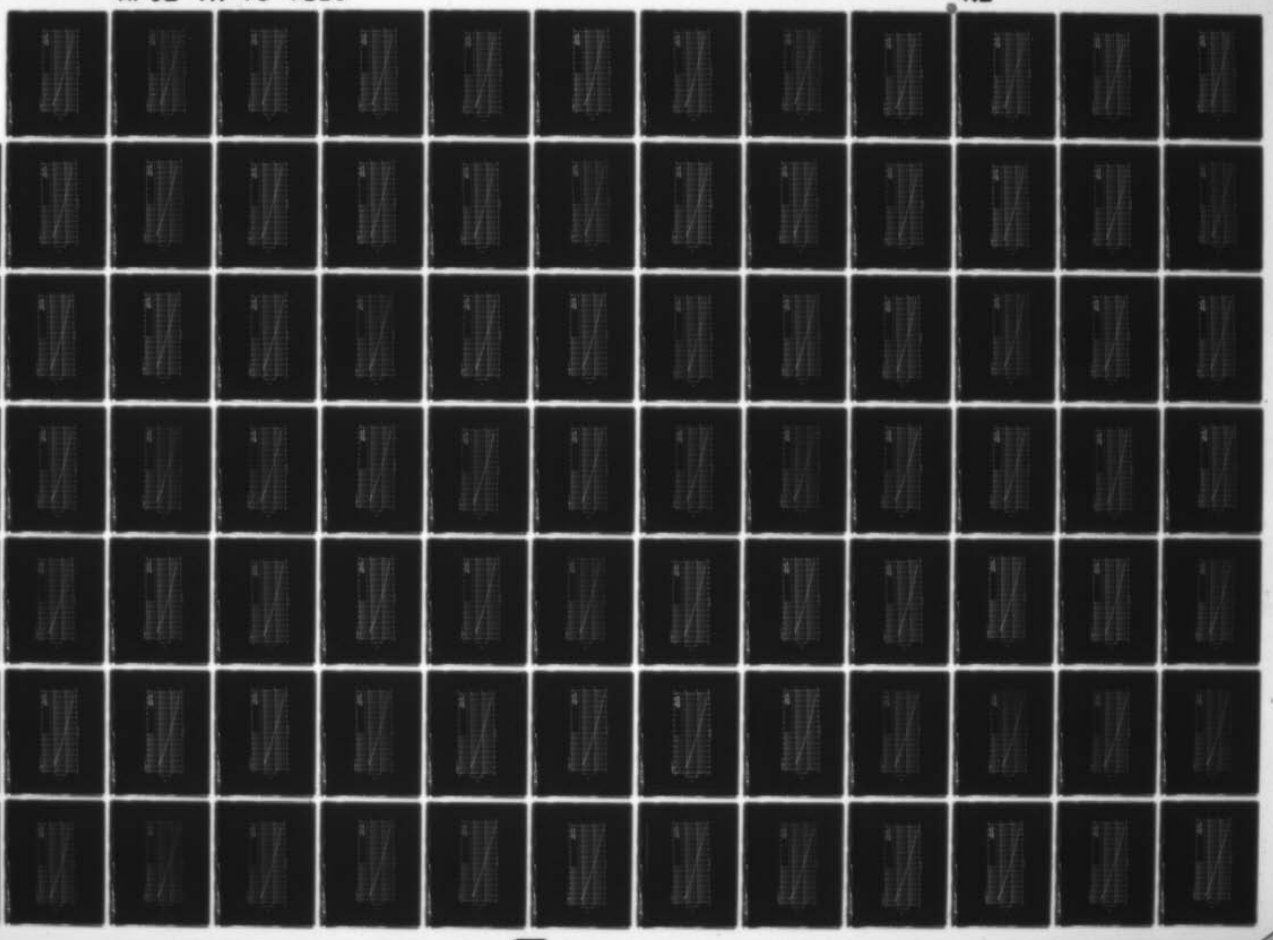

ION GAUGE IDG-4.-6
REV 120.0
DENSITY (GM/CM³)
ALTITUDE (KM)
© = DESCENDING ALTITUDE DATA
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PERIGEE LATITUDE 64.2 DEGREES
PERIGEE LONGITUDE 101.0 DEGREES
PERIGEE GMT 4 57 47

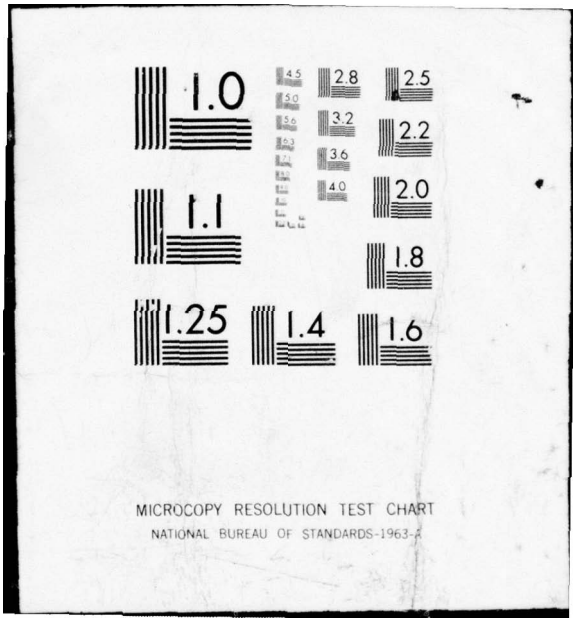

ION GAUGE IDG-4.-6
REV 123.0
⊙ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 64.7 DEGREES
PERIGEE LONGITUDE 7.2 DEGREES
PERIGEE GMT 11 15 35
DENSITY (GM/CM³)
ALTITUDE (KM)
10⁻¹¹
10⁻¹²
10⁻¹³
10⁻¹⁴
150
160
170
180
190
200
210
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230
240
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260
270
280
290
300

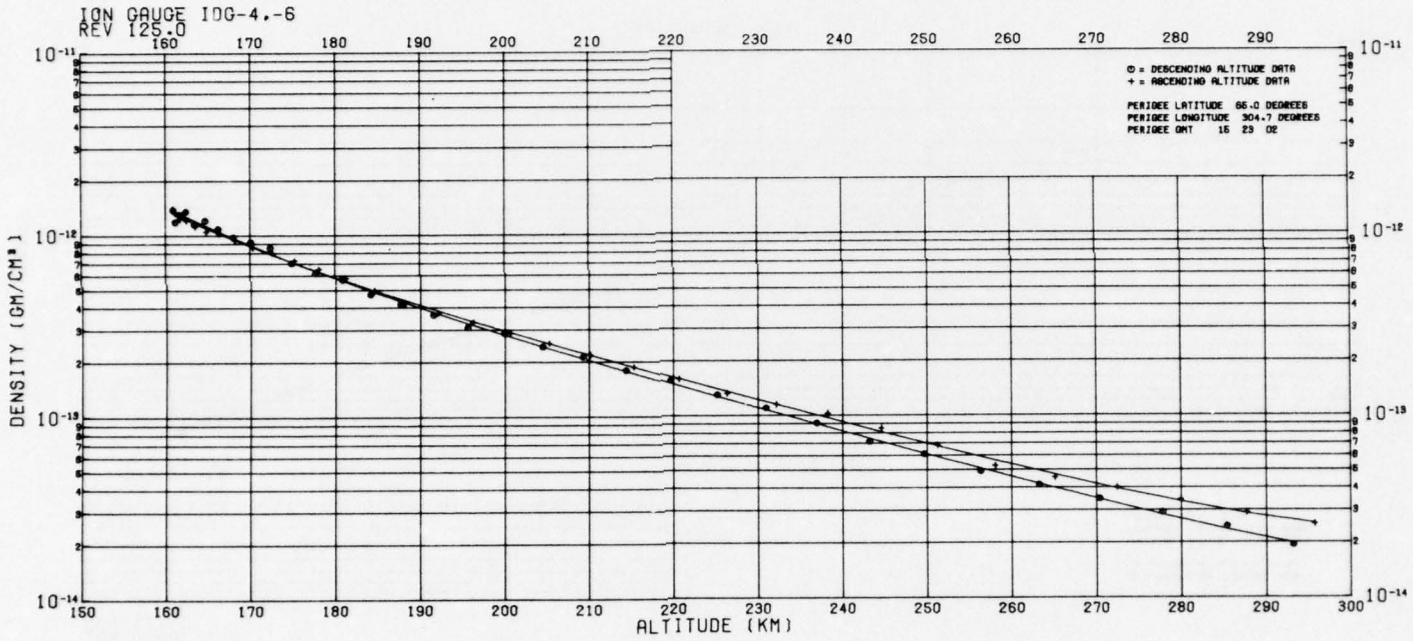

ION GAUGE IDG-4,-6
REV 124.0
⊖ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 64.8 DEGREES
PERIGEE LONGITUDE 338.0 DEGREES
PERIGEE GMT 15 18 48
DENSITY (GM/CM³)
ALTITUDE (KM)
10⁻¹¹
10⁻¹²
10⁻¹³
10⁻¹⁴
150
160
170
180
190
200
210
220
230
240
250
260
270
280
290
300

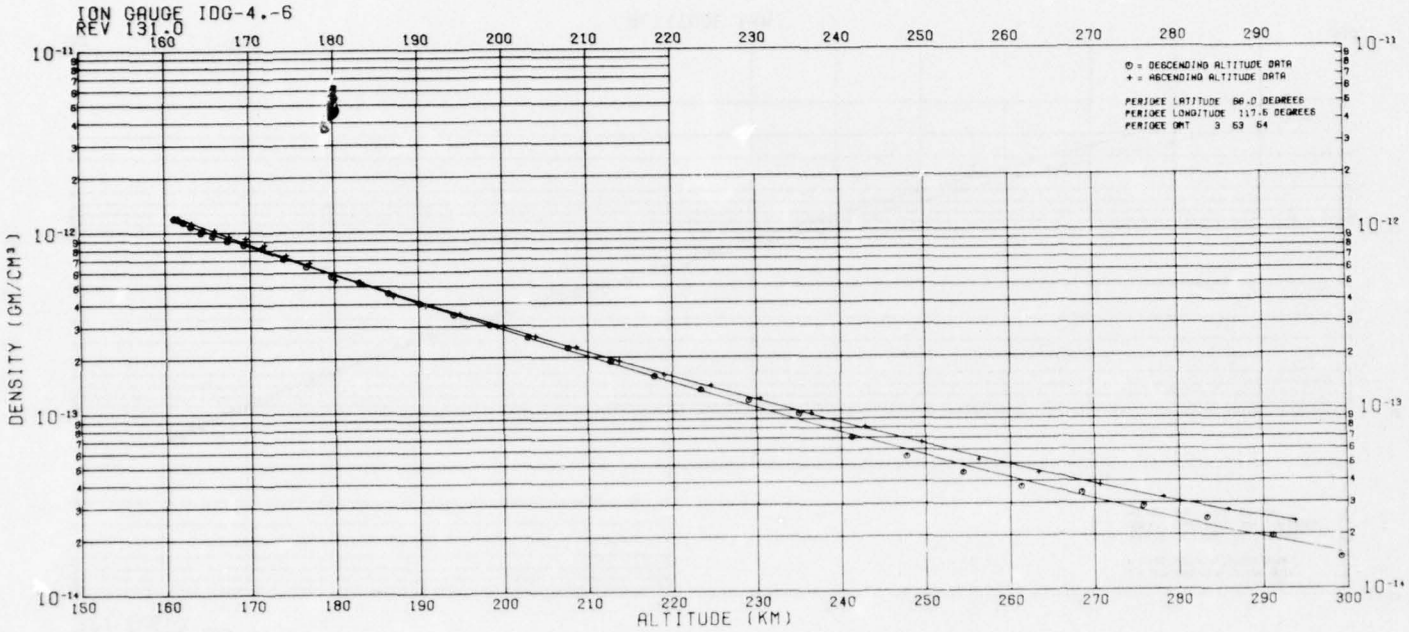
AD-A032 373 AIR FORCE GEOPHYSICS LAB HANSCOM AFB MASS F/G 4/1
IONIZATION GAUGE MEASUREMENTS OF ATMOSPHERIC DENSITY FROM A LOW--ETC(U)
MAY 76 J P MCISAAC, K S CHAMPION
UNCLASSIFIED AFGL-TR-76-0113 NL

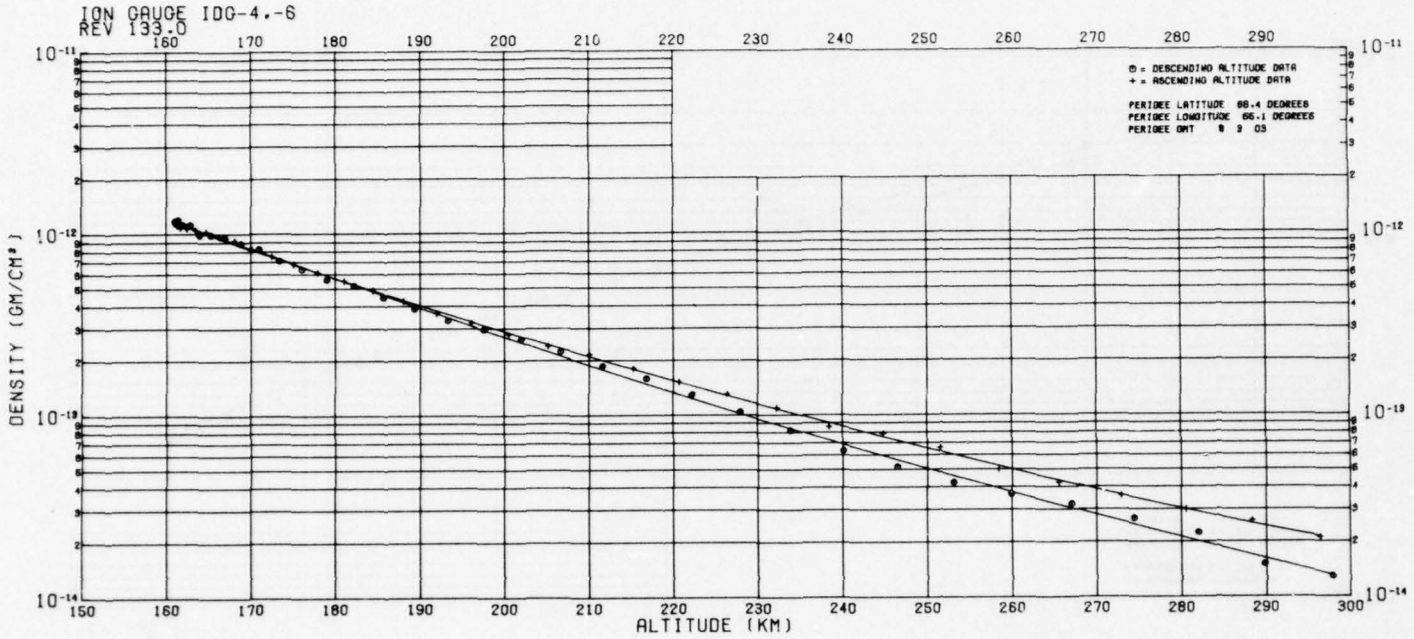
4 OF 6
AD
A032373

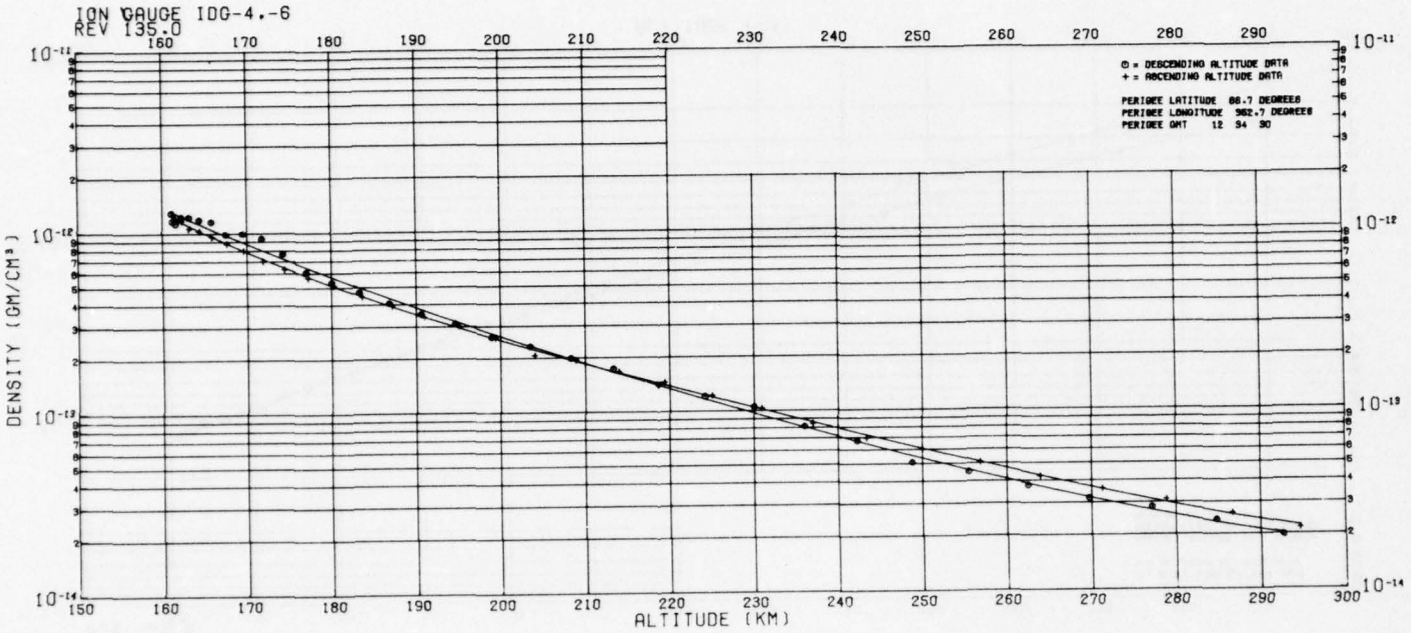


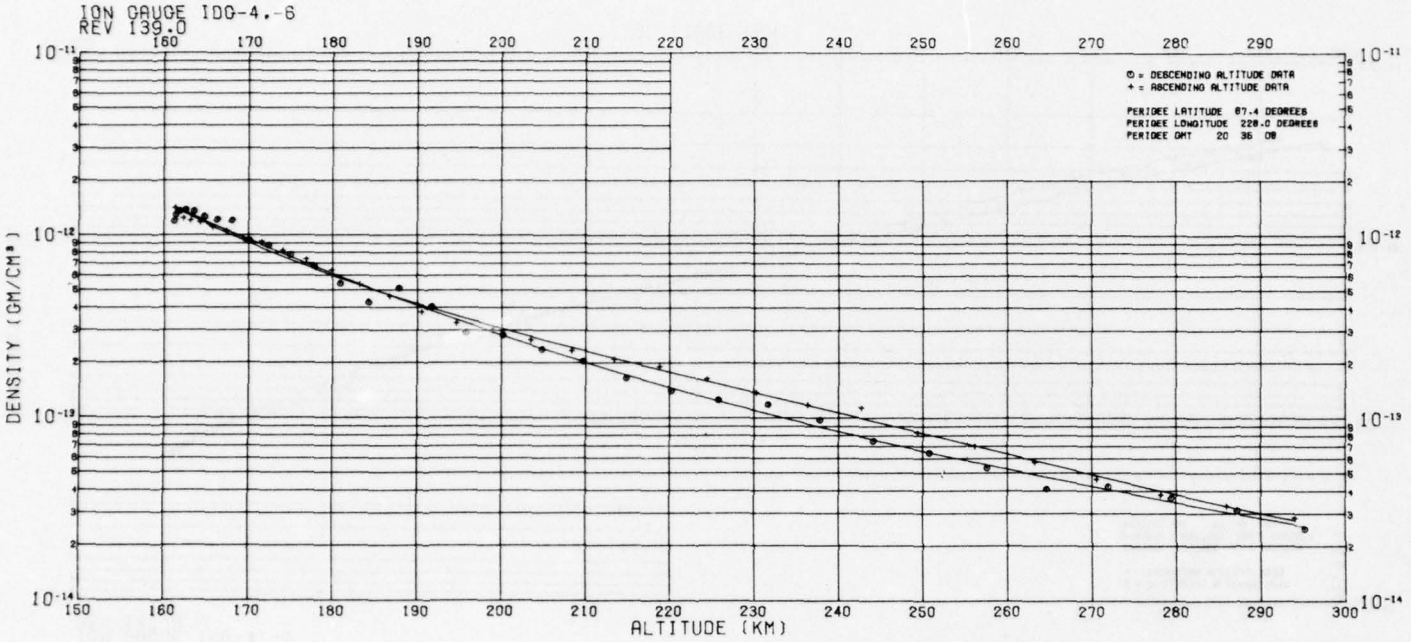

1.0
1.1
1.25
1.4
1.6
1.8
2.0
2.2
2.5
2.8
3.2
3.6
4.0
4.5
5.0
5.6
6.3
MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS-1963-A

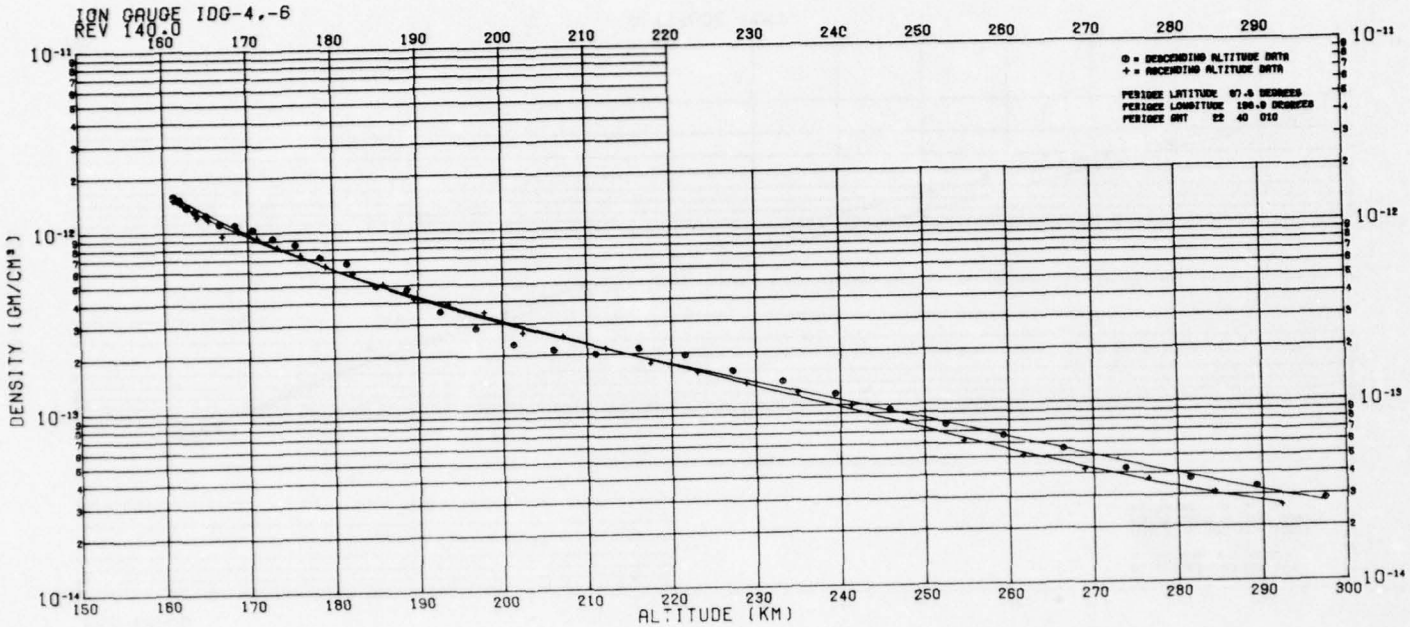

ION GAUGE IDG-4,-6
REV 125.0
⊖ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 66.0 DEGREES
PERIGEE LONGITUDE 304.7 DEGREES
PERIGEE GMT 15 23 02
DENSITY (GM/CM³)
ALTITUDE (KM)
10⁻¹¹
10⁻¹²
10⁻¹³
10⁻¹⁴
150
160
170
180
190
200
210
220
230
240
250
260
270
280
290
300

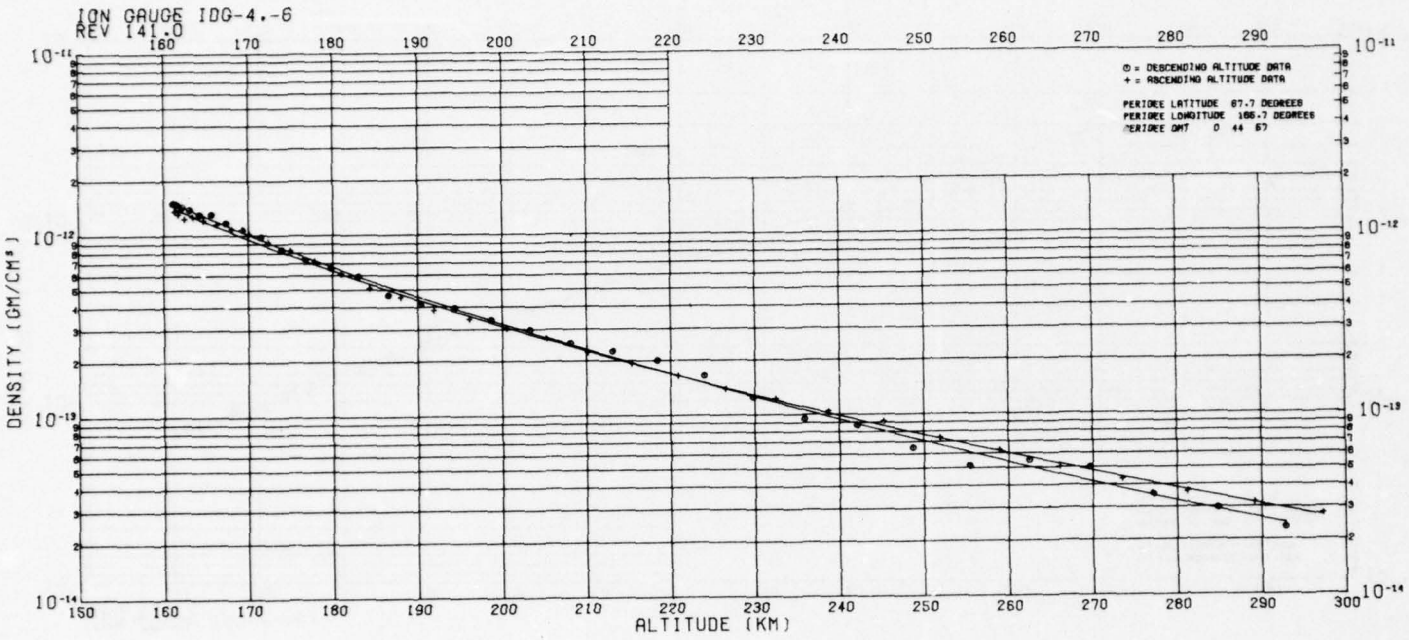

ION GAUGE IDG-4.-6
REV 131.0
© = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 88.0 DEGREES
PERIGEE LONGITUDE 117.6 DEGREES
PERIGEE GMT 3 53 54
DENSITY (GM/CM³)
ALTITUDE (KM)

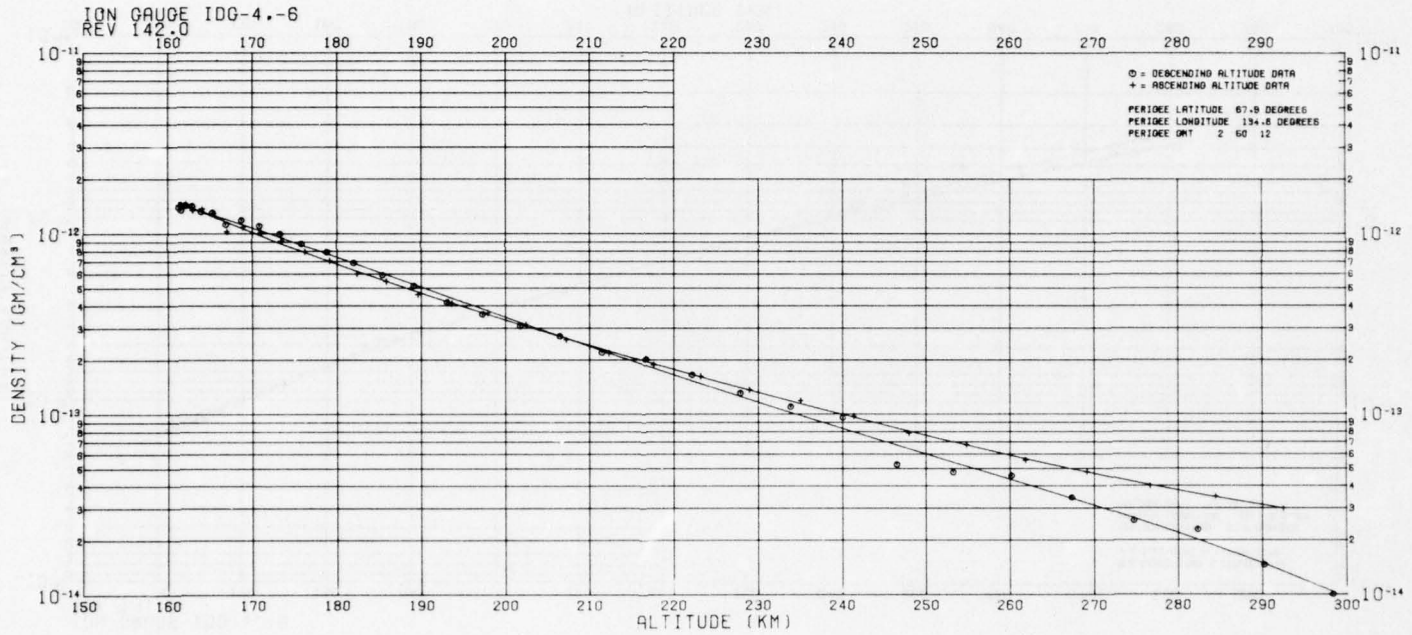

ION GAUGE IDG-4,-6
REV 133.0
⊙ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 88.4 DEGREES
PERIGEE LONGITUDE 66.1 DEGREES
PERIGEE GMT 0 9 03
DENSITY (GM/CM³)
ALTITUDE (KM)
10⁻¹¹
10⁻¹²
10⁻¹³
10⁻¹⁴
150
160
170
180
190
200
210
220
230
240
250
260
270
280
290
300

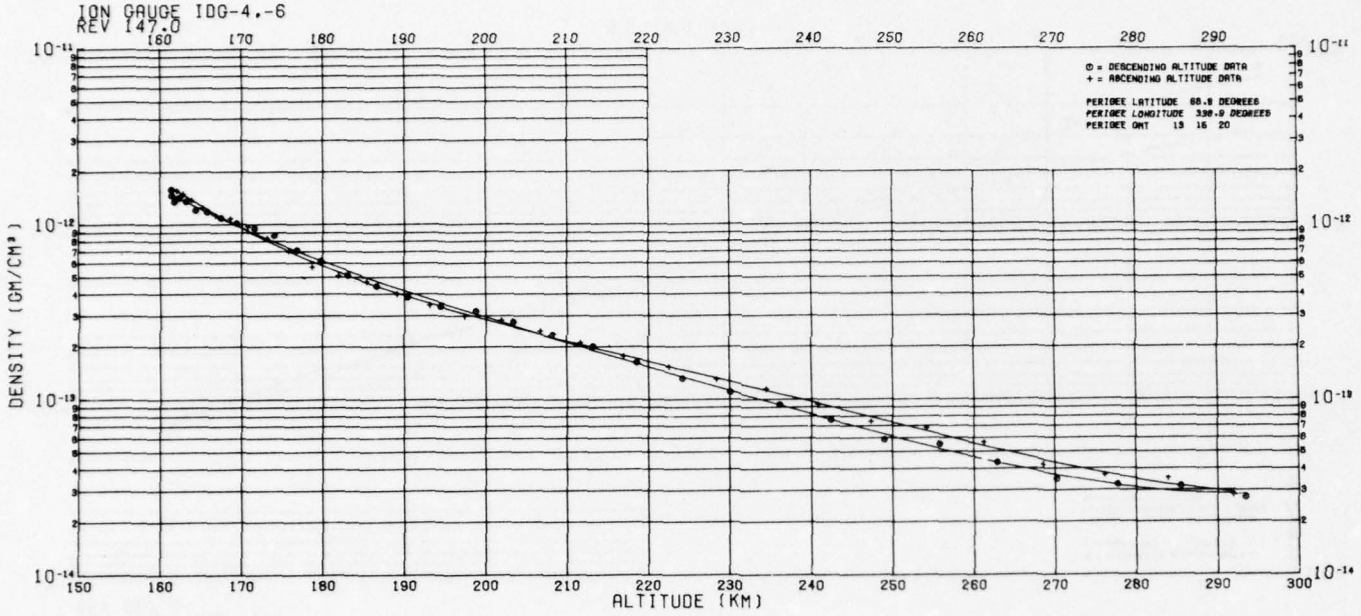

ION GAUGE IDG-4.-6
REV 135.0
⊙ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 88.7 DEGREES
PERIGEE LONGITUDE 352.7 DEGREES
PERIGEE GMT 12 34 30
DENSITY (GM/CM³)
ALTITUDE (KM)

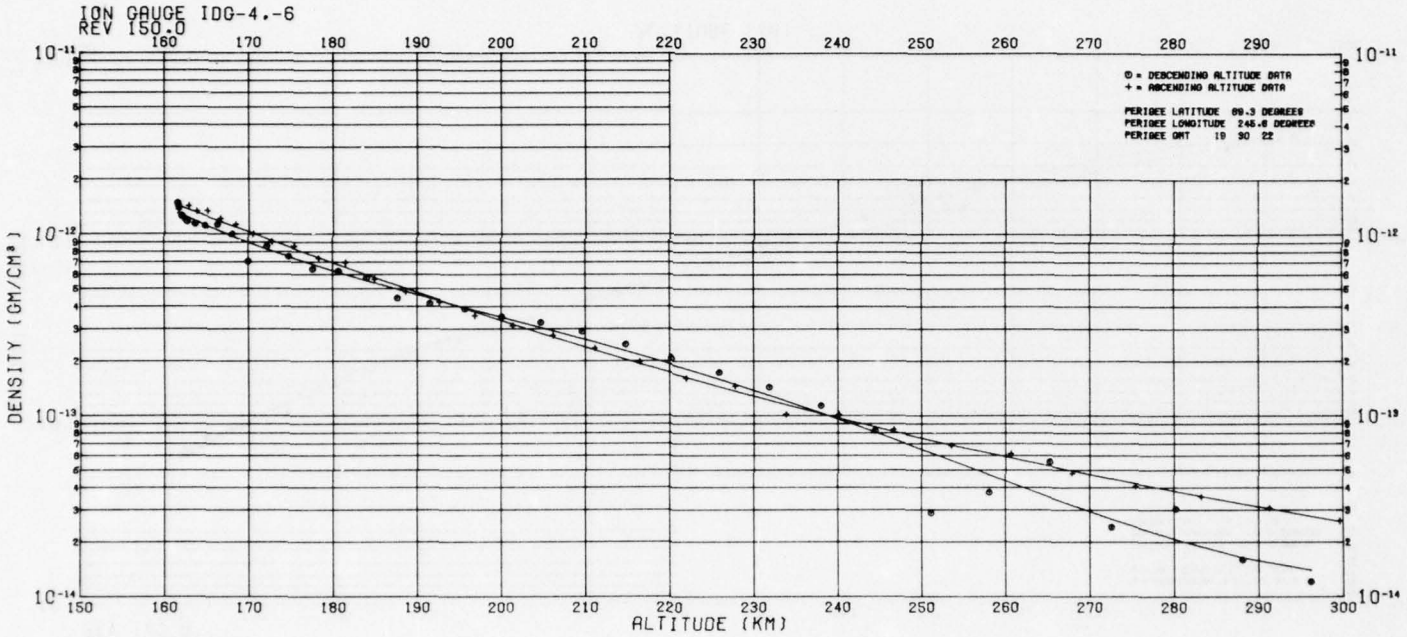

ION GAUGE IDG-4,-6
REV 139.0
© = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 87.4 DEGREES
PERIGEE LONGITUDE 228.0 DEGREES
PERIGEE GMT 20 36 08
DENSITY (GM/CM³)
ALTITUDE (KM)
10⁻¹¹
10⁻¹²
10⁻¹³
10⁻¹⁴
150
160
170
180
190
200
210
220
230
240
250
260
270
280
290
300

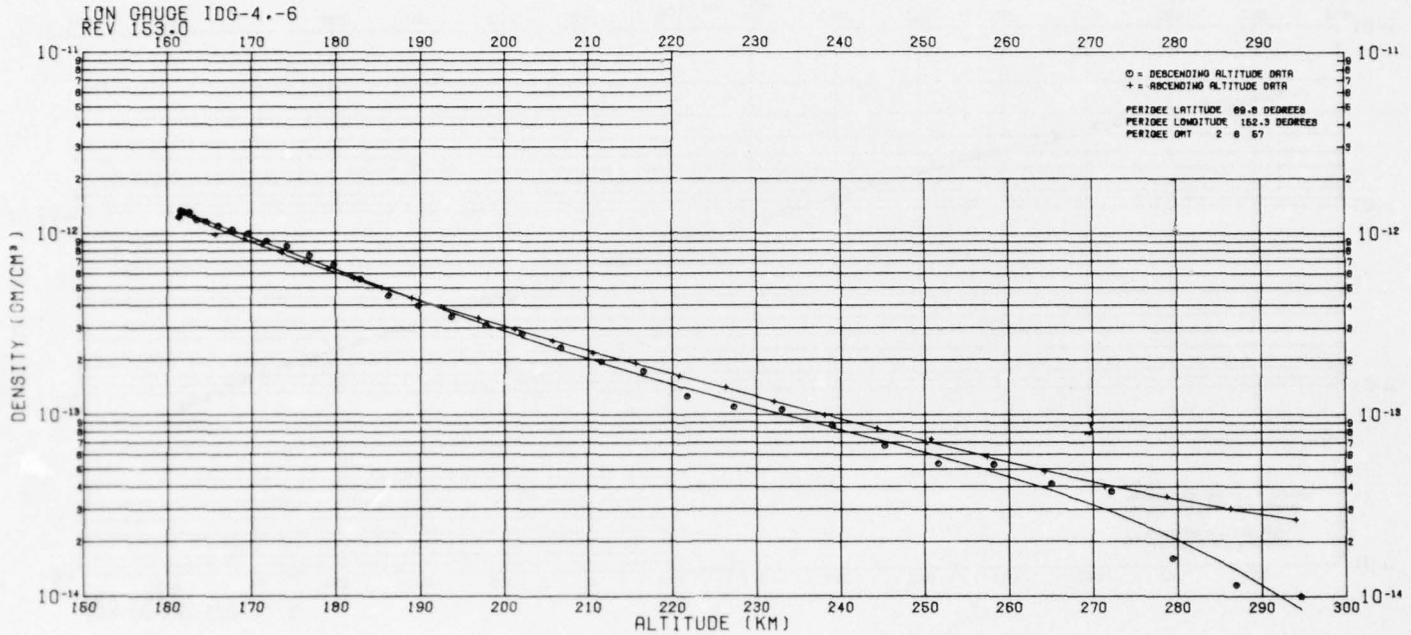

ION GAUGE IDG-4,-6
REV 140.0
⊖ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 97.5 DEGREES
PERIGEE LONGITUDE 100.0 DEGREES
PERIGEE GMT 22 40 010
DENSITY (GM/CM³)
ALTITUDE (KM)
10⁻¹¹
10⁻¹²
10⁻¹³
10⁻¹⁴
150
160
170
180
190
200
210
220
230
240
250
260
270
280
290
300

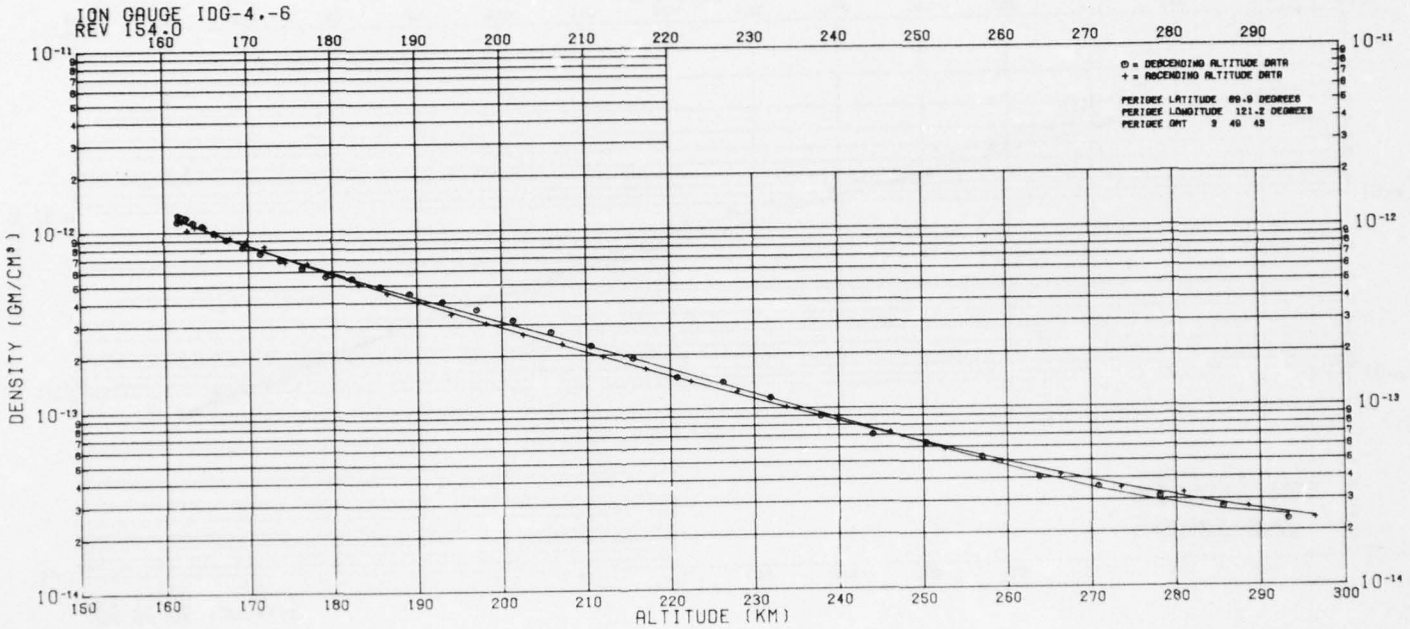

ION GAUGE IDG-4.-6
REV 141.0
⊙ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 87.7 DEGREES
PERIGEE LONGITUDE 166.7 DEGREES
PERIGEE GMT 0 44 57
DENSITY (GM/CM³)
ALTITUDE (KM)
10⁻¹¹
10⁻¹²
10⁻¹³
10⁻¹⁴
150
160
170
180
190
200
210
220
230
240
250
260
270
280
290
300

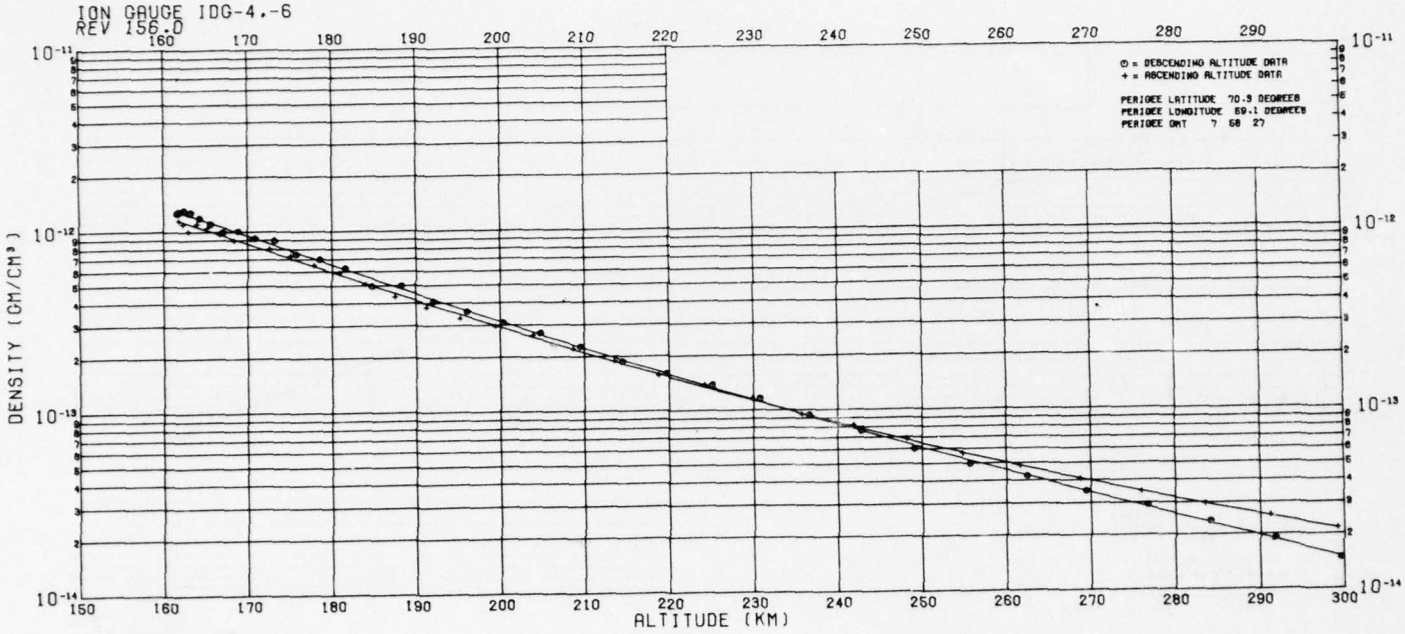

ION GAUGE IDG-4.-6
REV 142.0
⊖ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 67.8 DEGREES
PERIGEE LONGITUDE 134.8 DEGREES
PERIGEE GMT 2 60 12
DENSITY (GM/CM³)
ALTITUDE (KM)

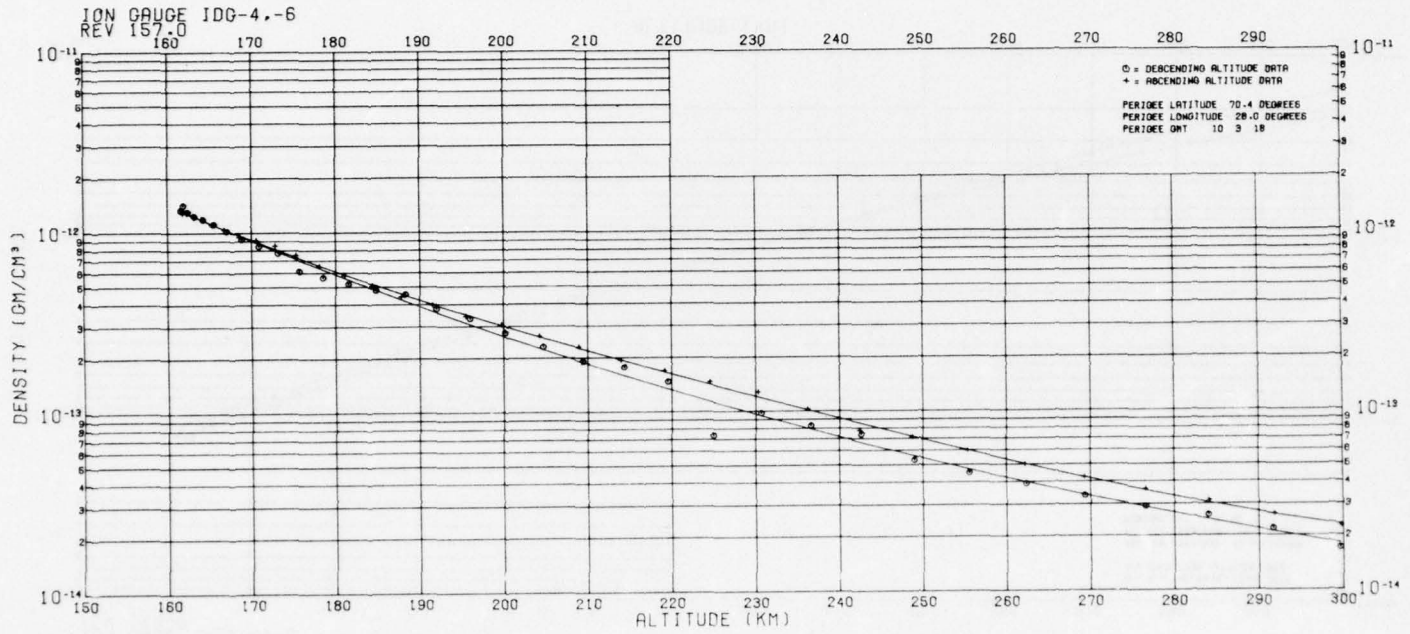

ION GAUGE IDG-4,-6
REV 147.0
⊙ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 68.8 DEGREES
PERIGEE LONGITUDE 338.9 DEGREES
PERIGEE GMT 13 16 20
DENSITY (GM/CM³)
ALTITUDE (KM)

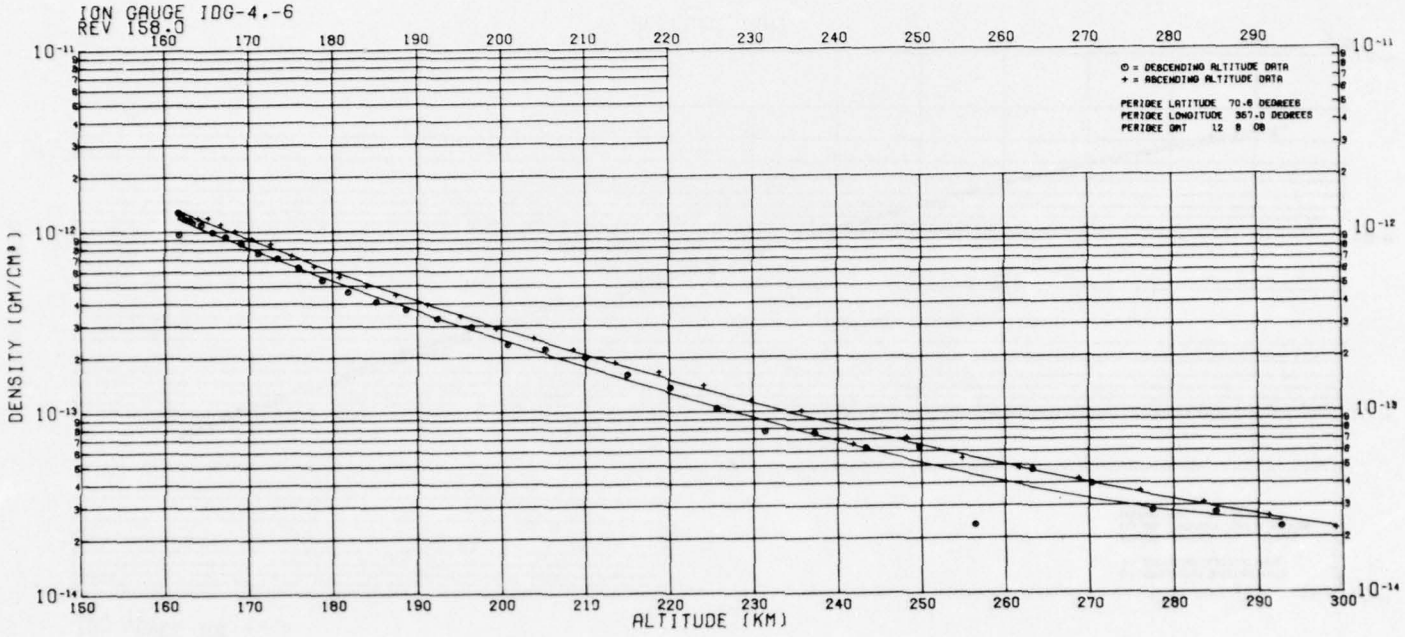

ION GAUGE IDG-4.-6
REV 150.0
⊙ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 89.3 DEGREES
PERIGEE LONGITUDE 248.8 DEGREES
PERIGEE GMT 18 30 22
DENSITY (GM/CM³)
ALTITUDE (KM)
10⁻¹¹
10⁻¹²
10⁻¹³
10⁻¹⁴
150
160
170
180
190
200
210
220
230
240
250
260
270
280
290
300

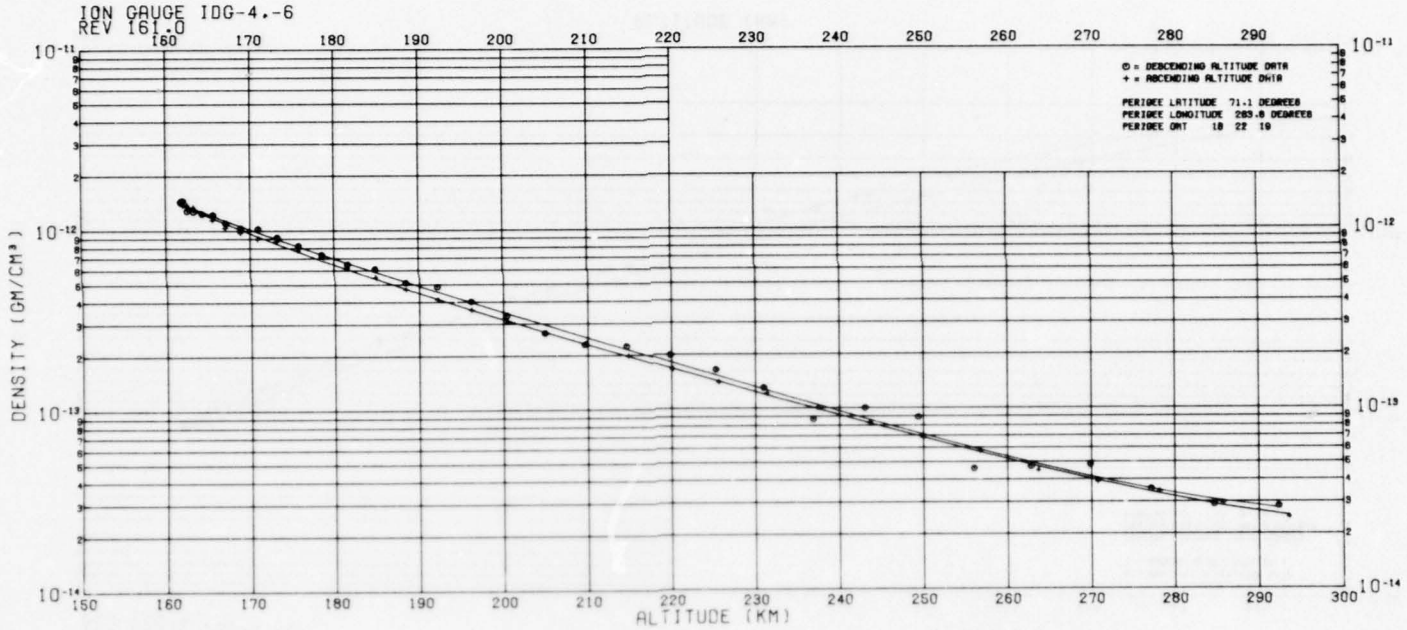

ION GAUGE IDG-4,-6
REV 153.0
⊙ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 69.8 DEGREES
PERIGEE LONGITUDE 152.3 DEGREES
PERIGEE GMT 2 8 57
DENSITY (GM/CM³)
ALTITUDE (KM)
10⁻¹¹
10⁻¹²
10⁻¹³
10⁻¹⁴
150
160
170
180
190
200
210
220
230
240
250
260
270
280
290
300

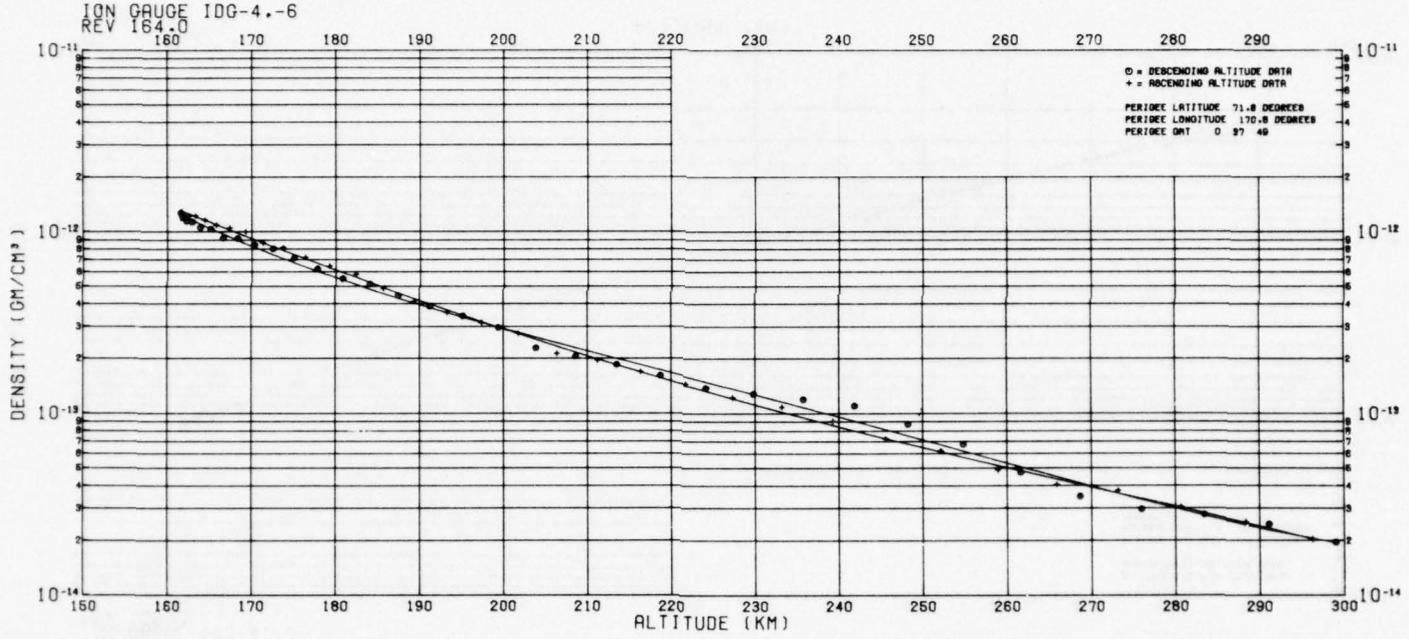

ION GAUGE IDG-4,-6
REV 154.0
⊙ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 69.9 DEGREES
PERIGEE LONGITUDE 121.2 DEGREES
PERIGEE GMT 9 49 43
DENSITY (GM/CM³)
ALTITUDE (KM)
10⁻¹¹
10⁻¹²
10⁻¹³
10⁻¹⁴
150
160
170
180
190
200
210
220
230
240
250
260
270
280
290
300

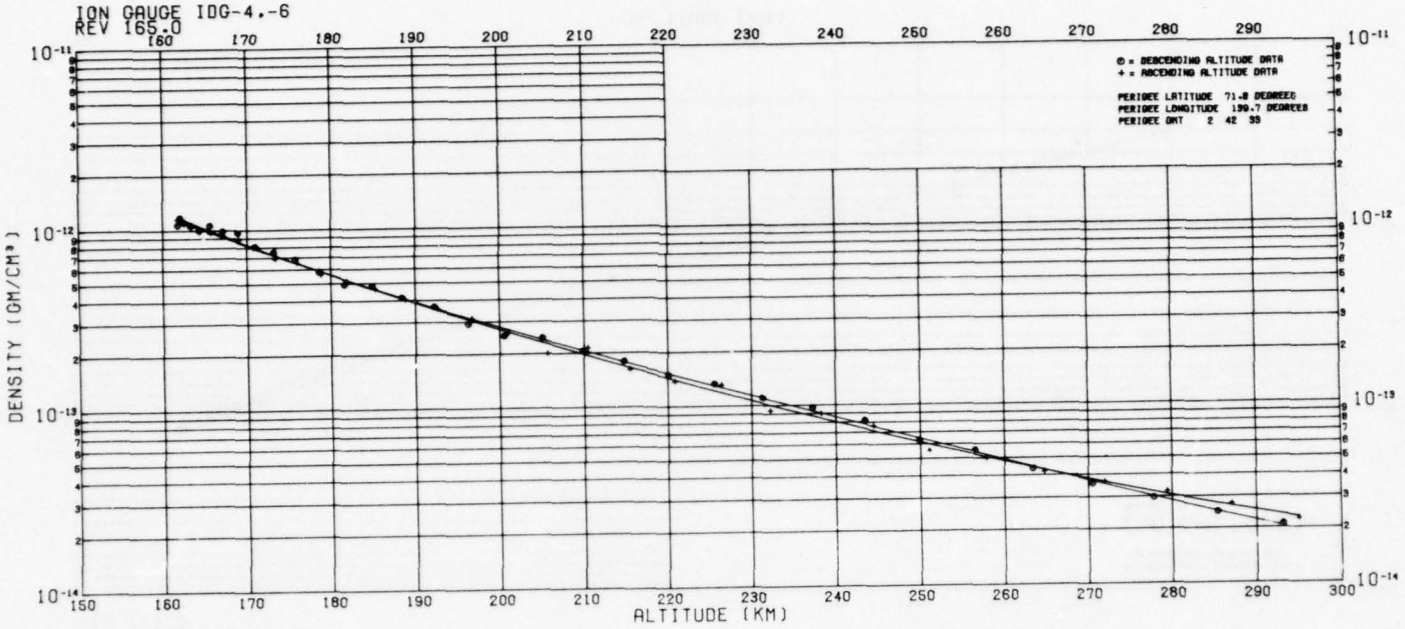

ION GAUGE IDG-4,-6
REV 156.0
⊙ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 70.3 DEGREES
PERIGEE LONGITUDE 89.1 DEGREES
PERIGEE GMT 7 58 27
DENSITY (GM/CM³)
ALTITUDE (KM)

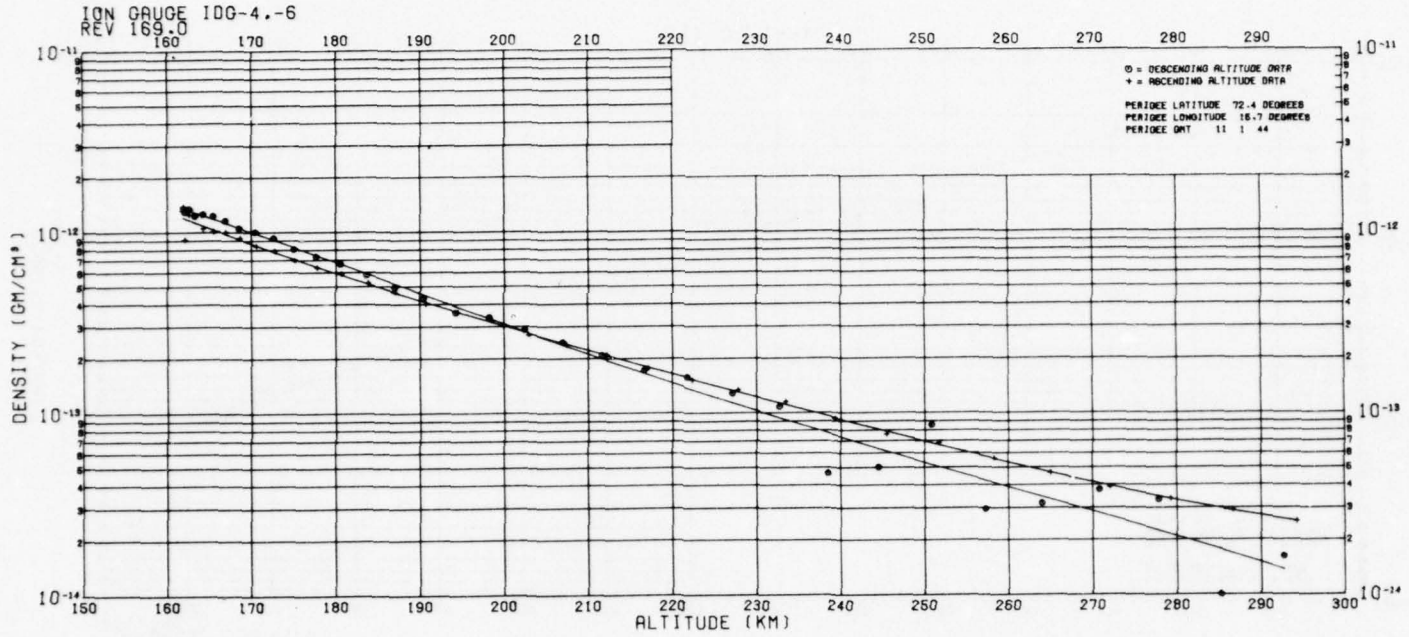

ION GAUGE IDG-4,-6
REV 157.0
⊖ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 70.4 DEGREES
PERIGEE LONGITUDE 28.0 DEGREES
PERIGEE GMT 10 3 18
DENSITY (GM/CM³)
ALTITUDE (KM)

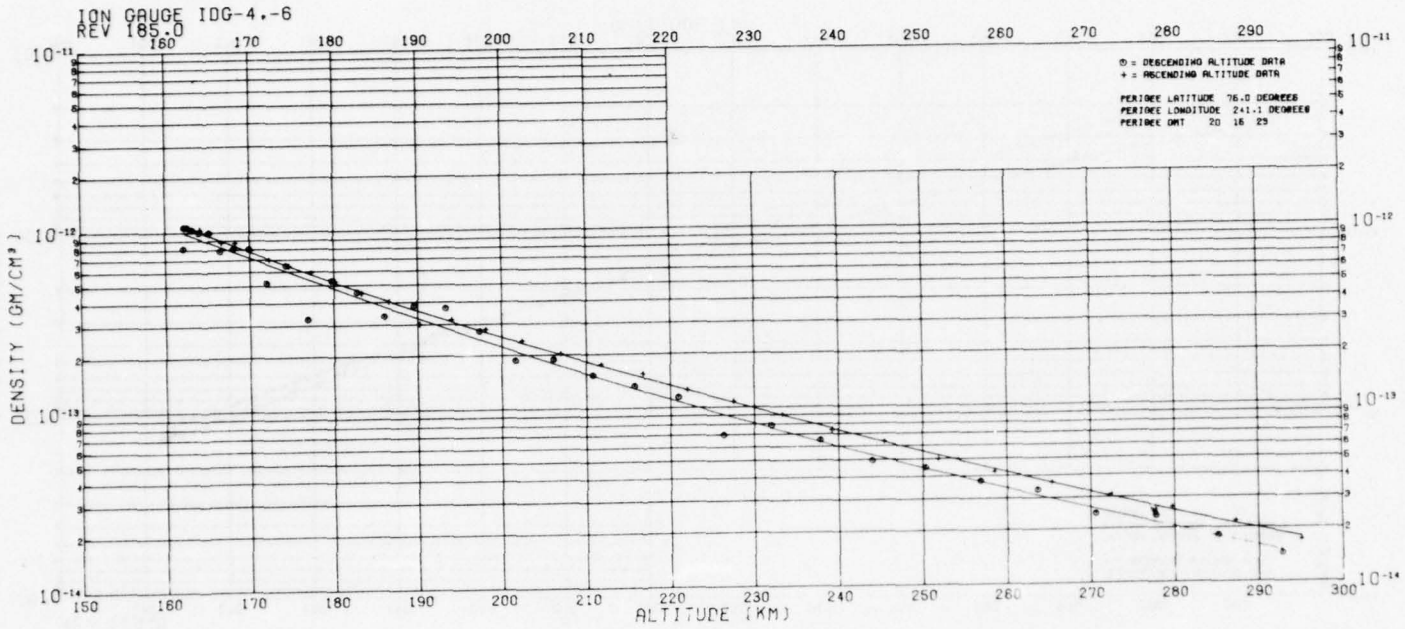

ION GAUGE IDG-4,-6
REV 158.0
⊙ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 70.6 DEGREES
PERIGEE LONGITUDE 367.0 DEGREES
PERIGEE GMT 12 8 08
DENSITY (GM/CM³)
ALTITUDE (KM)
150
160
170
180
190
200
210
220
230
240
250
260
270
280
290
300
10⁻¹¹
10⁻¹²
10⁻¹³
10⁻¹⁴

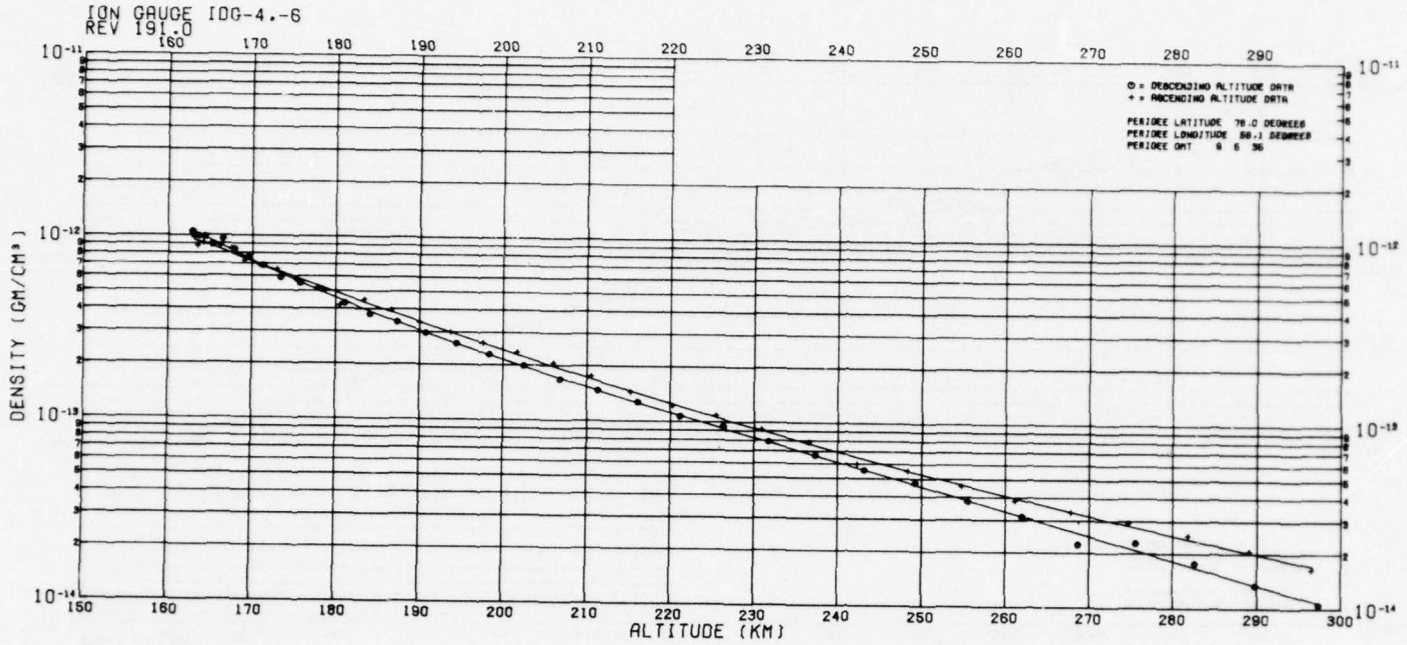

ION GAUGE IDG-4,-6
REV 161.0
⊙ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 71.1 DEGREES
PERIGEE LONGITUDE 283.8 DEGREES
PERIGEE GMT 18 22 19
DENSITY (GM/CM³)
ALTITUDE (KM)
10⁻¹¹
10⁻¹²
10⁻¹³
10⁻¹⁴
150
160
170
180
190
200
210
220
230
240
250
260
270
280
290
300

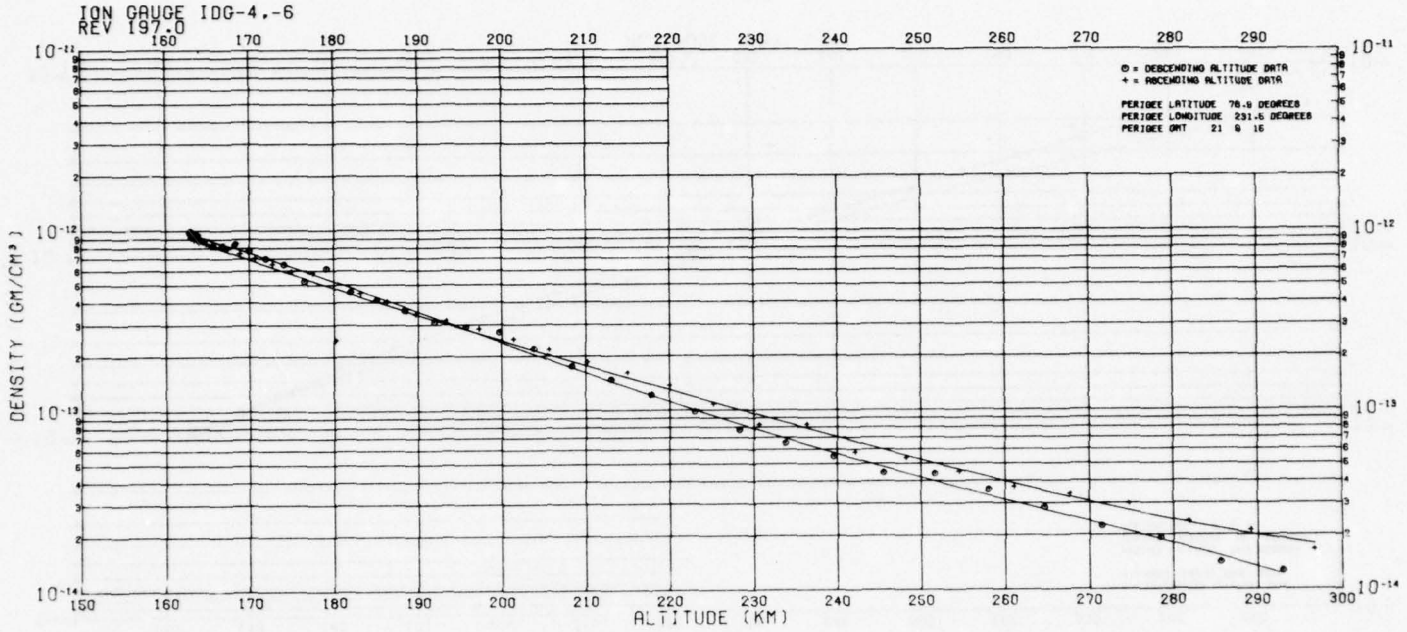

ION GAUGE IDG-4.-6
REV 164.0
⊙ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 71.8 DEGREES
PERIGEE LONGITUDE 170.8 DEGREES
PERIGEE GMT 0 97 48
DENSITY (GM/CM³)
ALTITUDE (KM)
10⁻¹¹
10⁻¹²
10⁻¹³
10⁻¹⁴
150
160
170
180
190
200
210
220
230
240
250
260
270
280
290
300

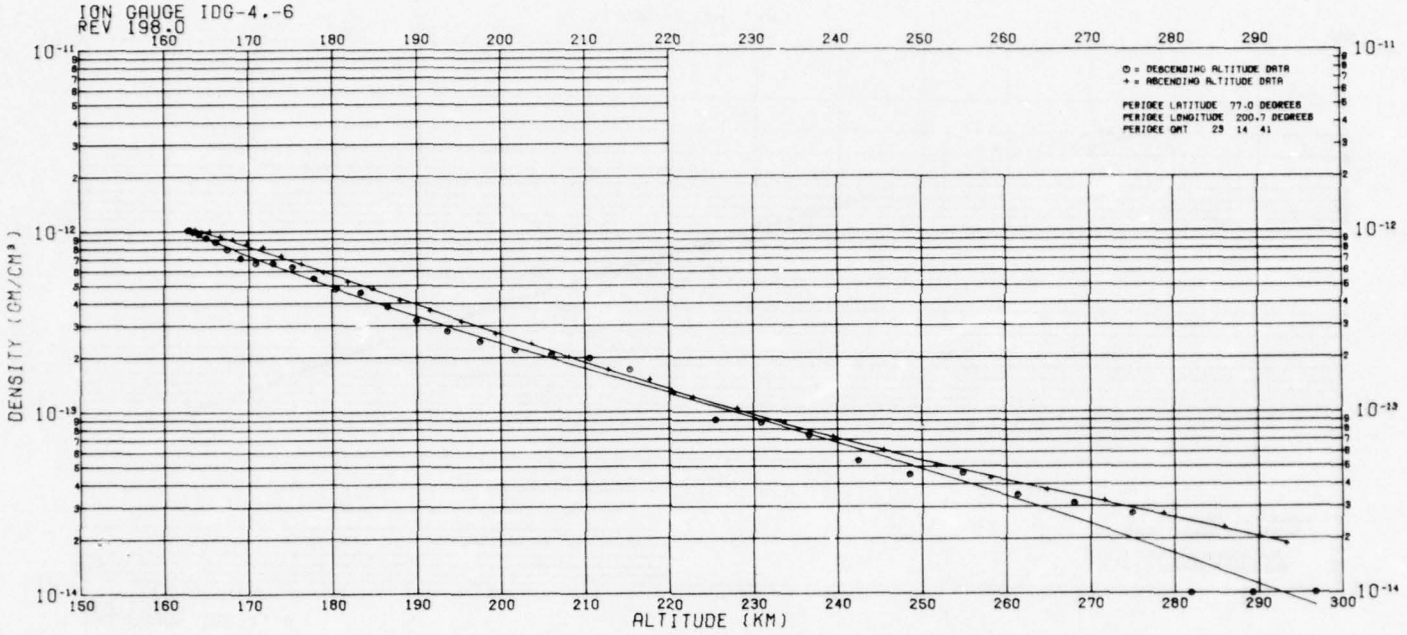

ION GAUGE IDG-4.-6
REV 165.0
© = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 71.8 DEGREES
PERIGEE LONGITUDE 190.7 DEGREES
PERIGEE GMT 2 42 33
DENSITY (GM/CM³)
ALTITUDE (KM)
10⁻¹¹
10⁻¹²
10⁻¹³
10⁻¹⁴
150
160
170
180
190
200
210
220
230
240
250
260
270
280
290
300

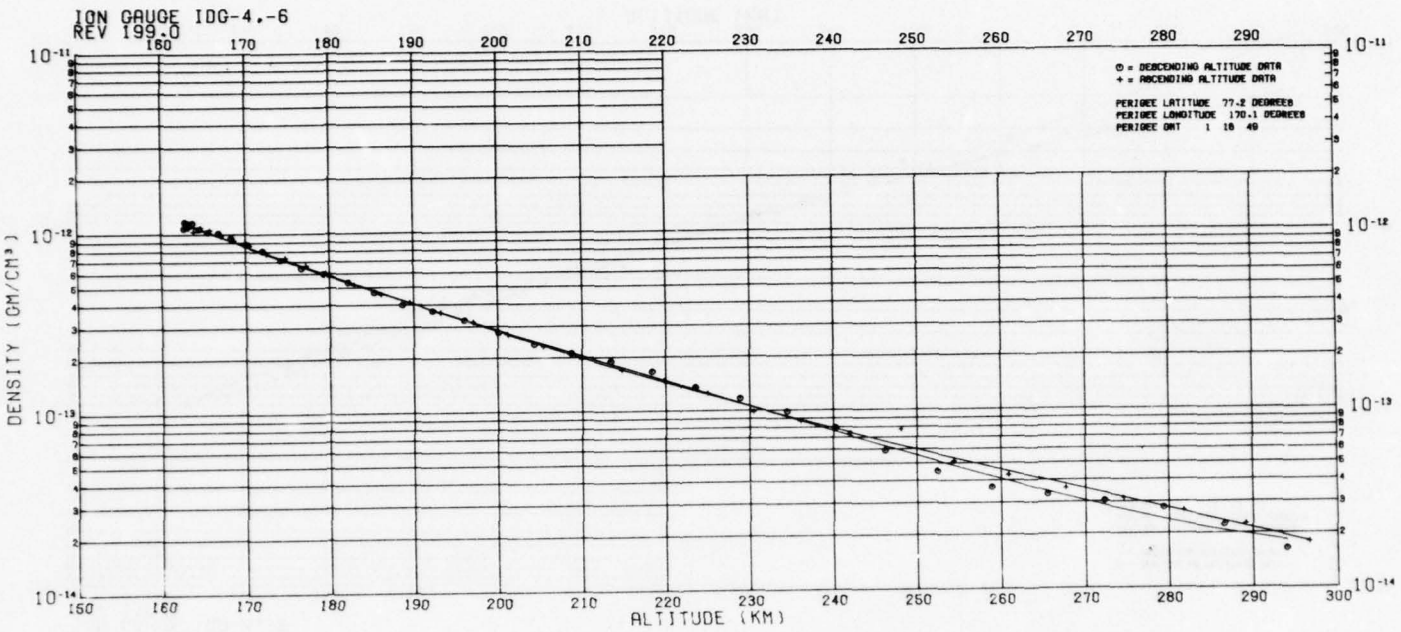

ION GAUGE IDG-4,-6
REV 169.0
⊙ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 72.4 DEGREES
PERIGEE LONGITUDE 16.7 DEGREES
PERIGEE GMT 11 1 44
DENSITY (GM/CM³)
ALTITUDE (KM)
10⁻¹¹
10⁻¹²
10⁻¹³
10⁻¹⁴
150
160
170
180
190
200
210
220
230
240
250
260
270
280
290
300

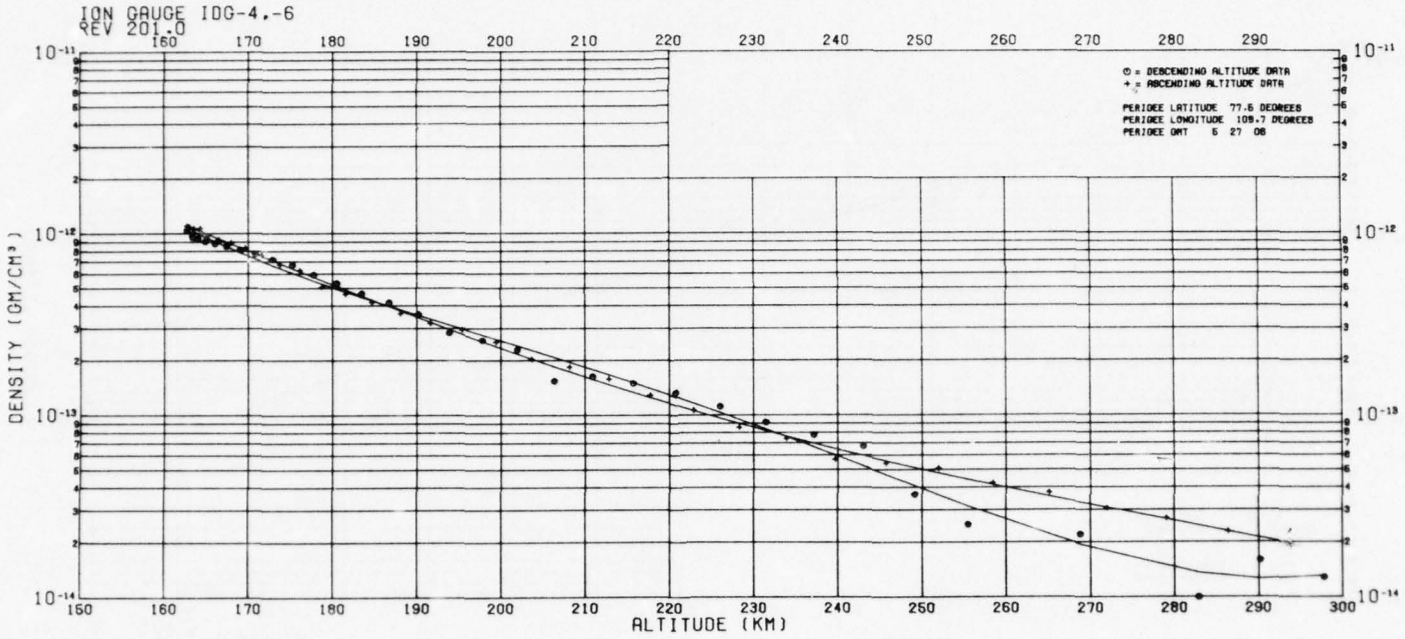

ION GAUGE IDG-4,-6
REV 185.0
⊖ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 76.0 DEGREES
PERIGEE LONGITUDE 241.1 DEGREES
PERIGEE GMT 20 16 23
DENSITY (GM/CM³)
ALTITUDE (KM)

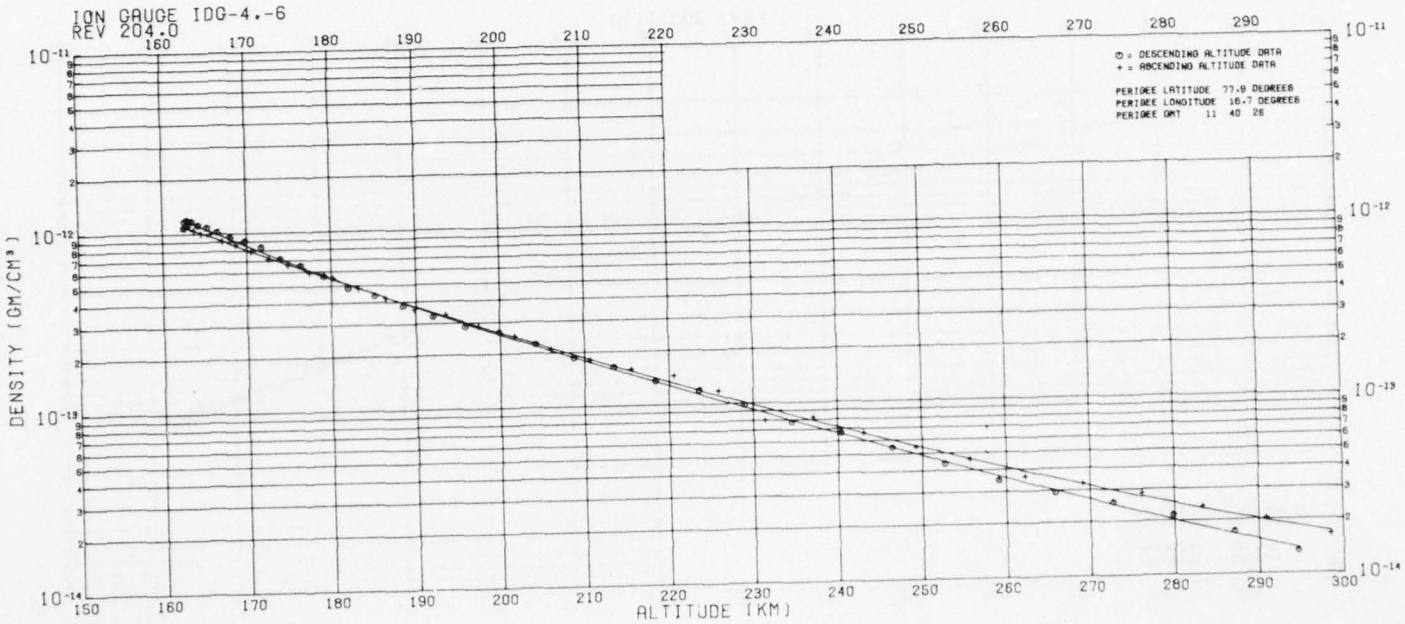

ION GAUGE IDG-4.-6
REV 191.0
DENSITY (GM/CM³)
ALTITUDE (KM)
⊙ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 78.0 DEGREES
PERIGEE LONGITUDE 50.1 DEGREES
PERIGEE GMT 0 6 36

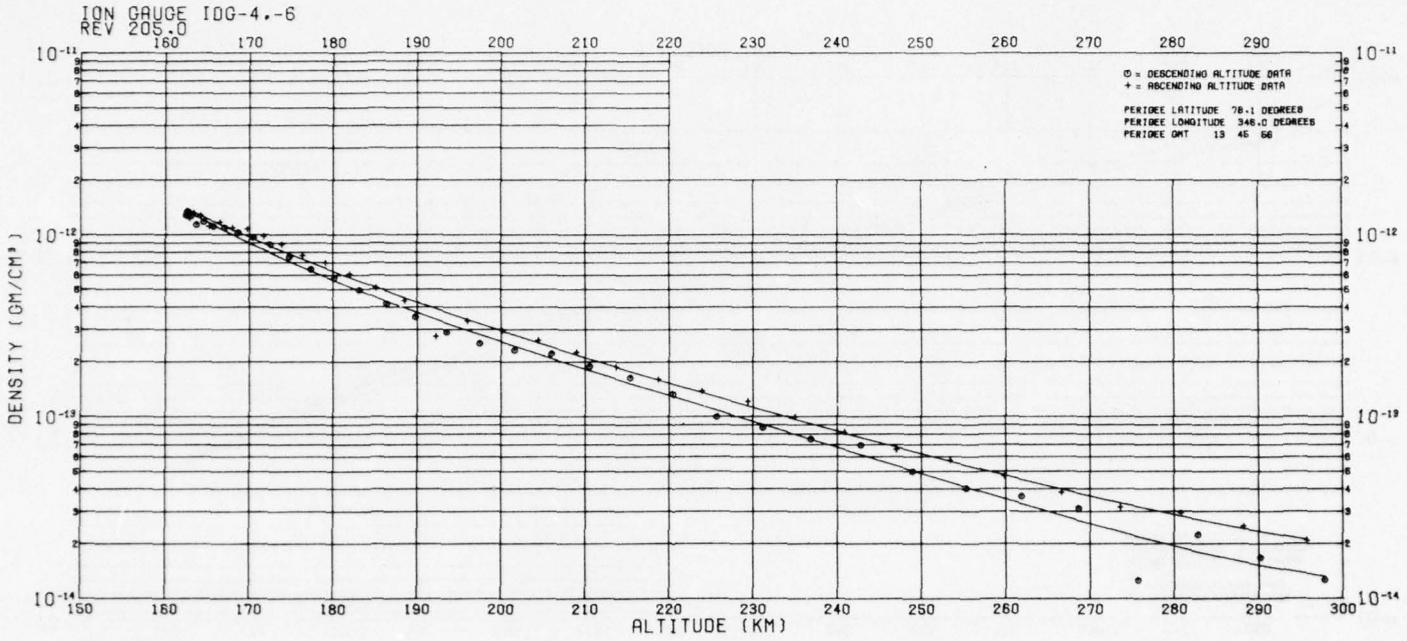

ION GAUGE IDG-4,-6
REV 197.0
⊙ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 76.9 DEGREES
PERIGEE LONGITUDE 231.5 DEGREES
PERIGEE GMT 21 9 16
DENSITY (GM/CM³)
ALTITUDE (KM)
10⁻¹¹
10⁻¹²
10⁻¹³
10⁻¹⁴
150
160
170
180
190
200
210
220
230
240
250
260
270
280
290
300

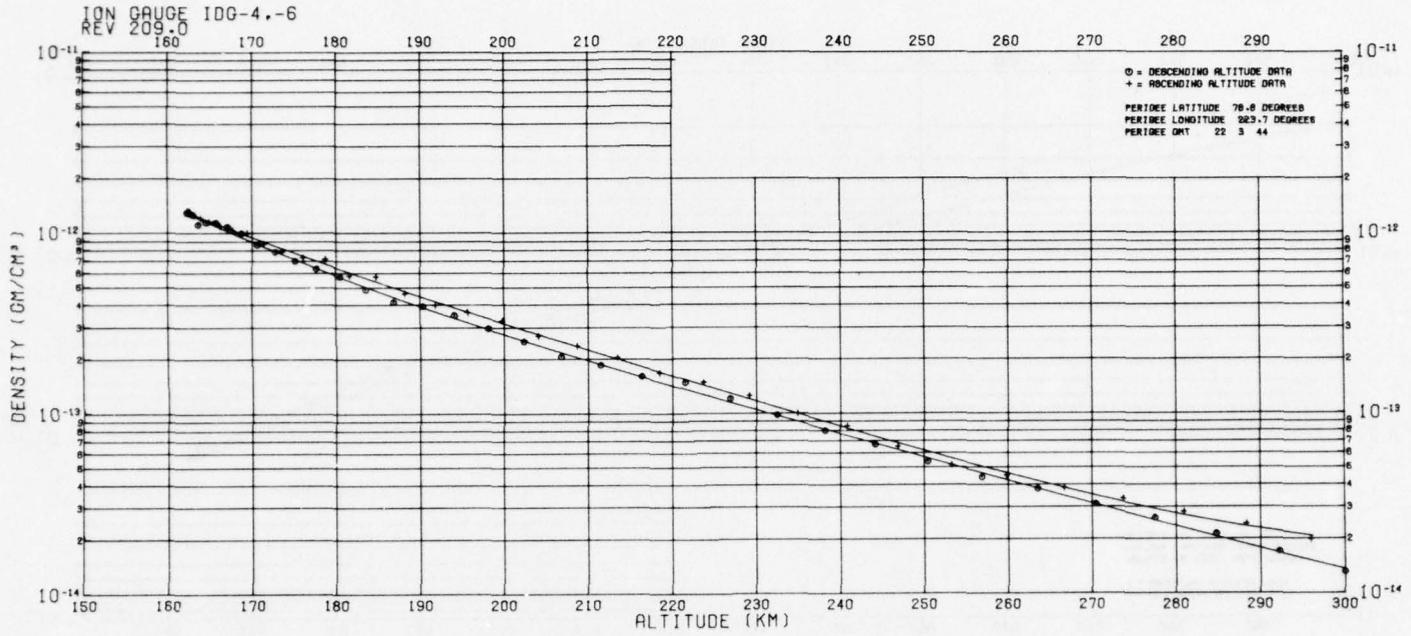

ION GAUGE IDG-4.-6
REV 198.0
○ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 77.0 DEGREES
PERIGEE LONGITUDE 200.7 DEGREES
PERIGEE GMT 23 14 41
DENSITY (GM/CM³)
ALTITUDE (KM)
10⁻¹¹
10⁻¹²
10⁻¹³
10⁻¹⁴
150
160
170
180
190
200
210
220
230
240
250
260
270
280
290
300

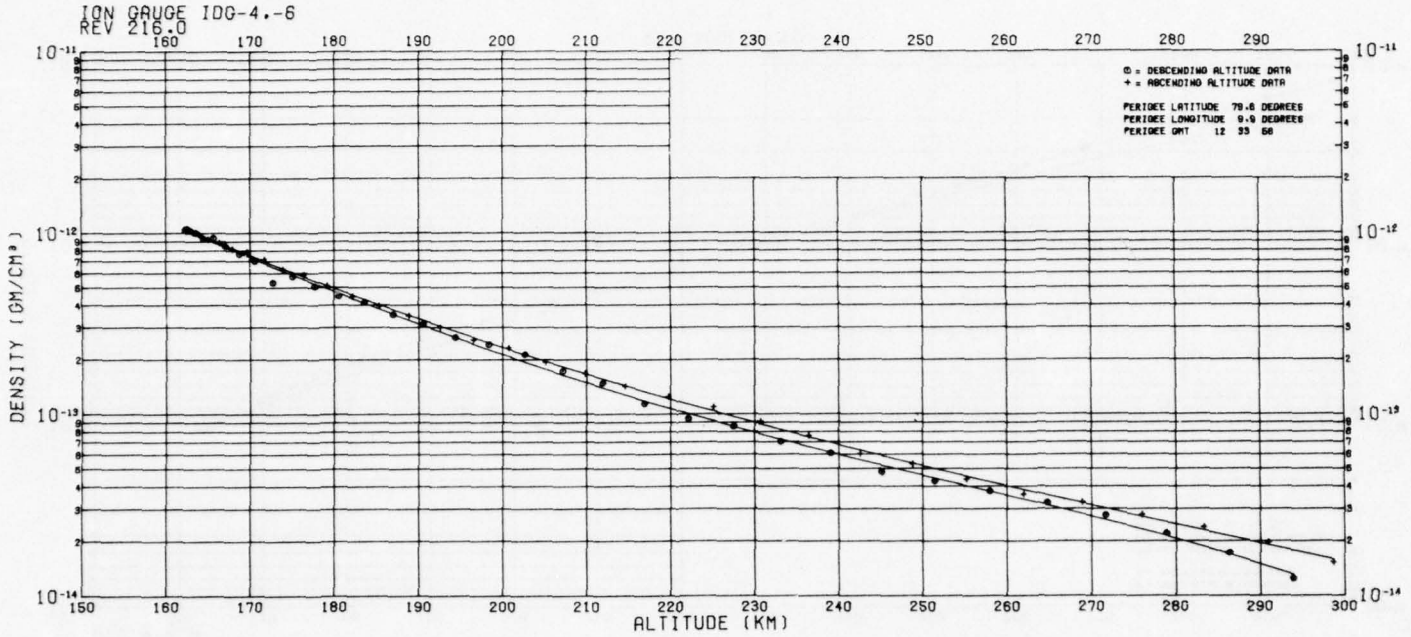

ION GAUGE IDG-4.-6
REV 199.0
⊙ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 77.2 DEGREES
PERIGEE LONGITUDE 170.1 DEGREES
PERIGEE GMT 1 18 49
DENSITY (GM/CM³)
ALTITUDE (KM)

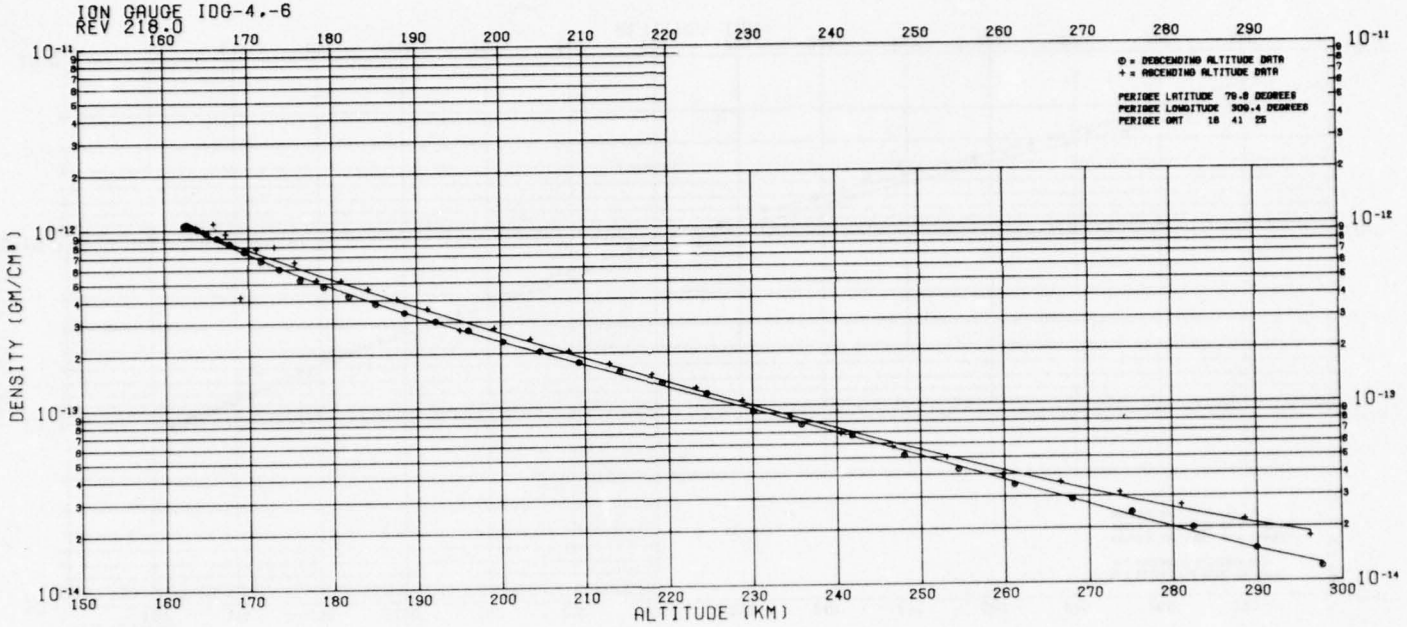

ION GAUGE IDG-4,-6
REV 201.0
⊖ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 77.6 DEGREES
PERIGEE LONGITUDE 109.7 DEGREES
PERIGEE GMT 6 27 08
DENSITY (GM/CM³)
ALTITUDE (KM)
150
160
170
180
190
200
210
220
230
240
250
260
270
280
290
300
10⁻¹¹
10⁻¹²
10⁻¹³
10⁻¹⁴

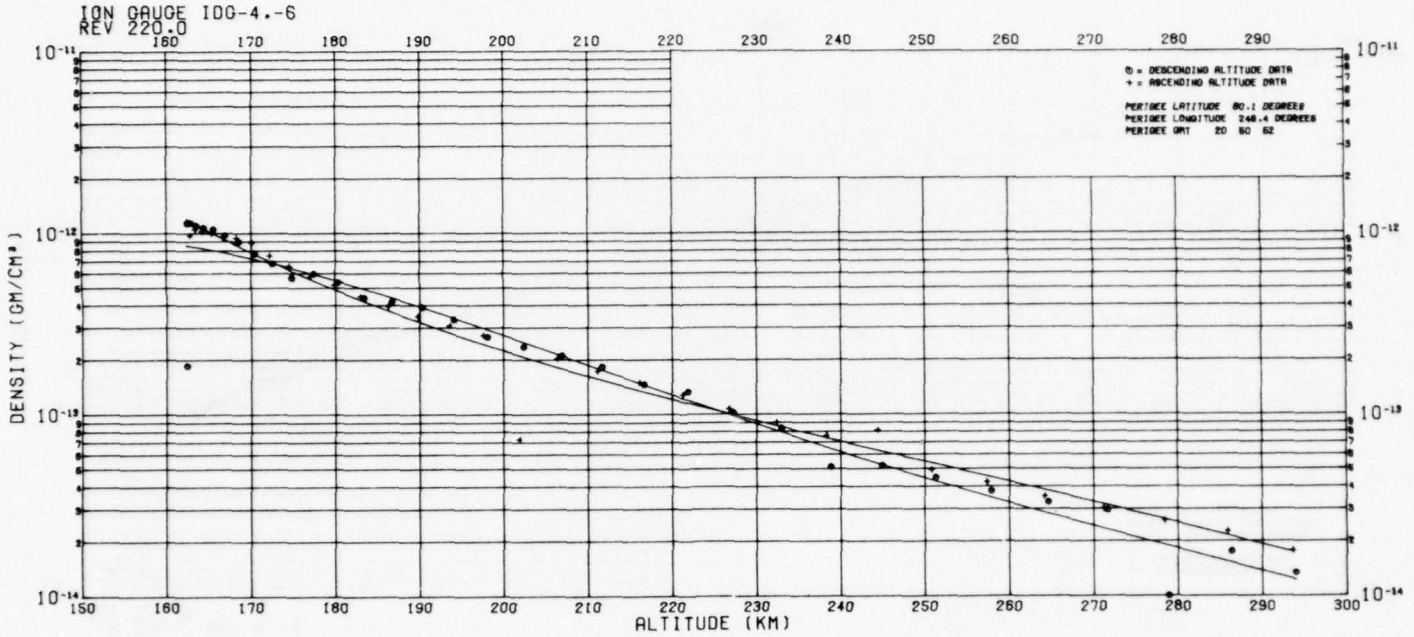

ION GAUGE IDG-4.-6
REV 204.0
⊙ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 77.9 DEGREES
PERIGEE LONGITUDE 16.7 DEGREES
PERIGEE GMT 11 40 26
DENSITY (GM/CM³)
ALTITUDE (KM)

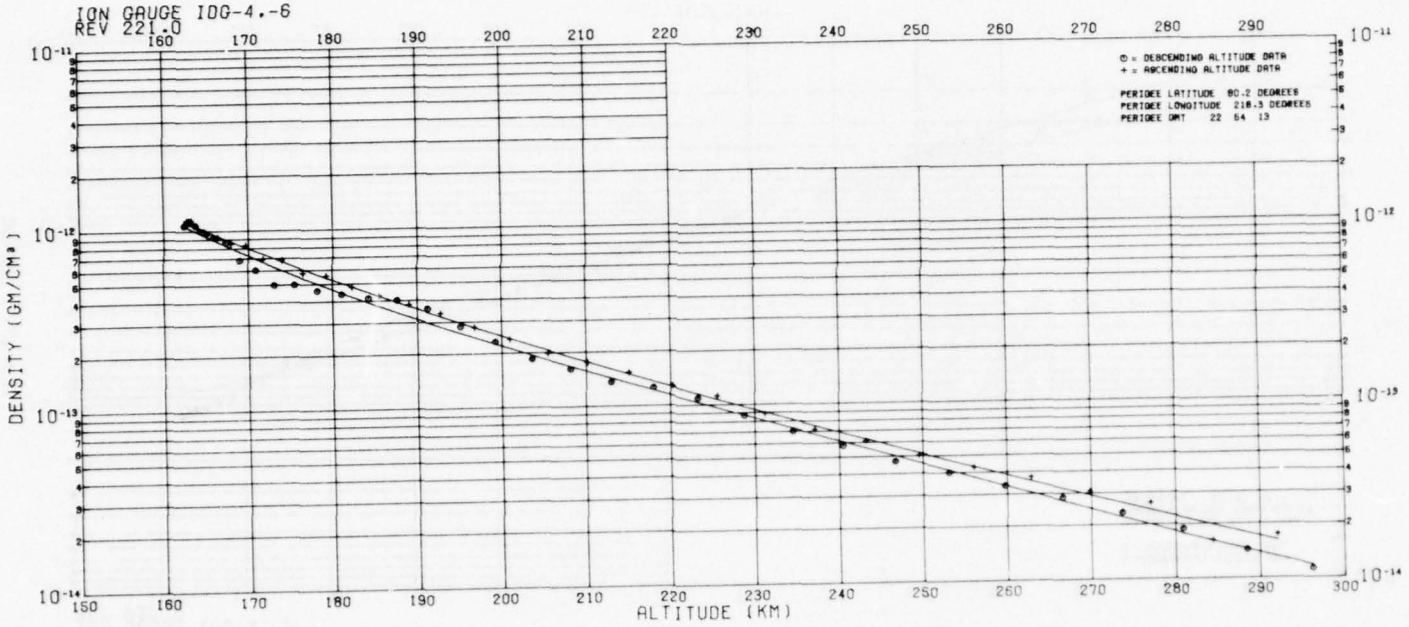

ION GAUGE IDG-4,-6
REV 205.0
⊙ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 78.1 DEGREES
PERIGEE LONGITUDE 346.0 DEGREES
PERIGEE GMT 13 45 58
DENSITY (GM/CM³)
ALTITUDE (KM)

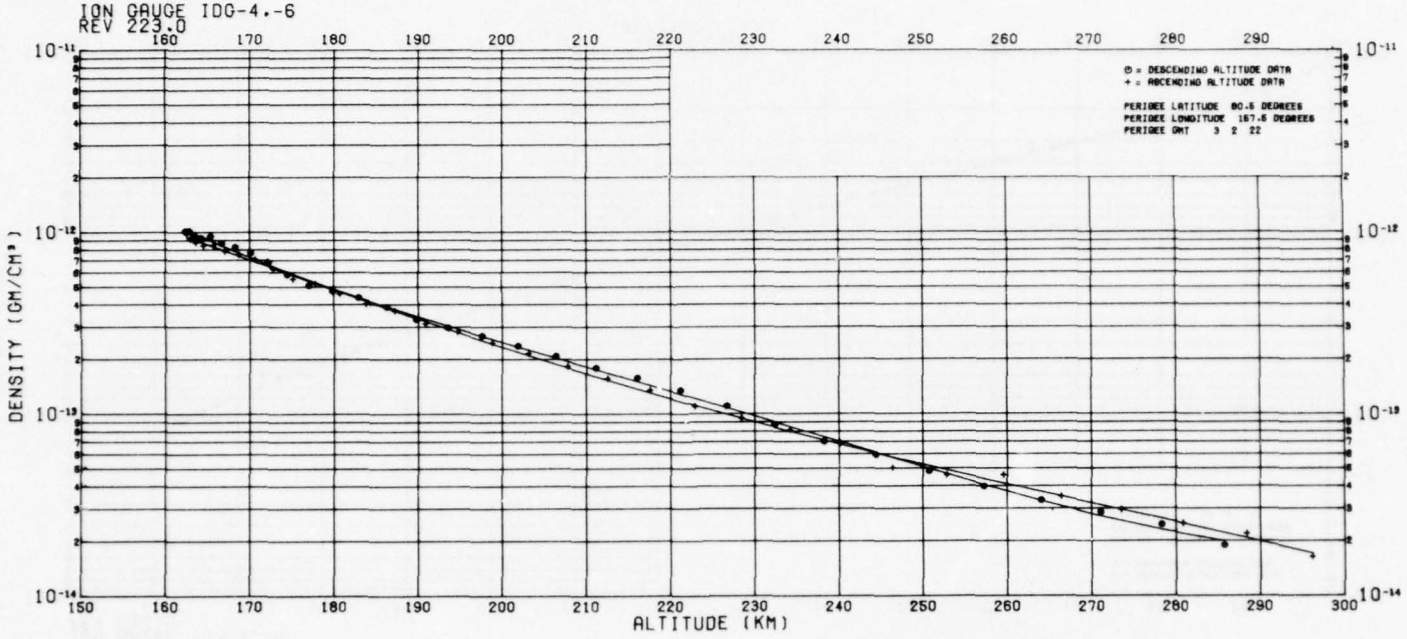

ION GAUGE IDG-4.-6
REV 209.0
⊙ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 78.8 DEGREES
PERIGEE LONGITUDE 323.7 DEGREES
PERIGEE GMT 22 3 44
DENSITY (GM/CM³)
ALTITUDE (KM)
10⁻¹¹
10⁻¹²
10⁻¹³
10⁻¹⁴
150
160
170
180
190
200
210
220
230
240
250
260
270
280
290
300

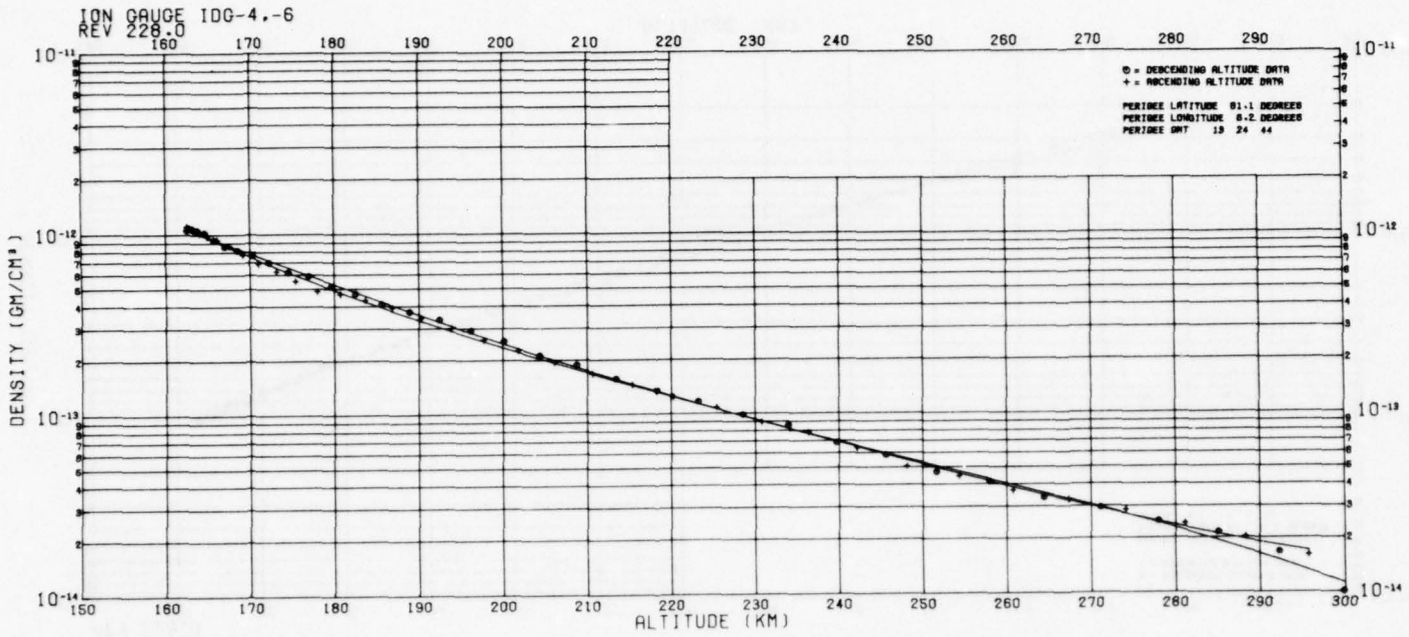

ION GAUGE IDG-4.-6
REV 216.0
⊖ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 79.6 DEGREES
PERIGEE LONGITUDE 9.9 DEGREES
PERIGEE GMT 12 33 58
DENSITY (GM/CM³)
ALTITUDE (KM)
10⁻¹¹
10⁻¹²
10⁻¹³
10⁻¹⁴
150
160
170
180
190
200
210
220
230
240
250
260
270
280
290
300

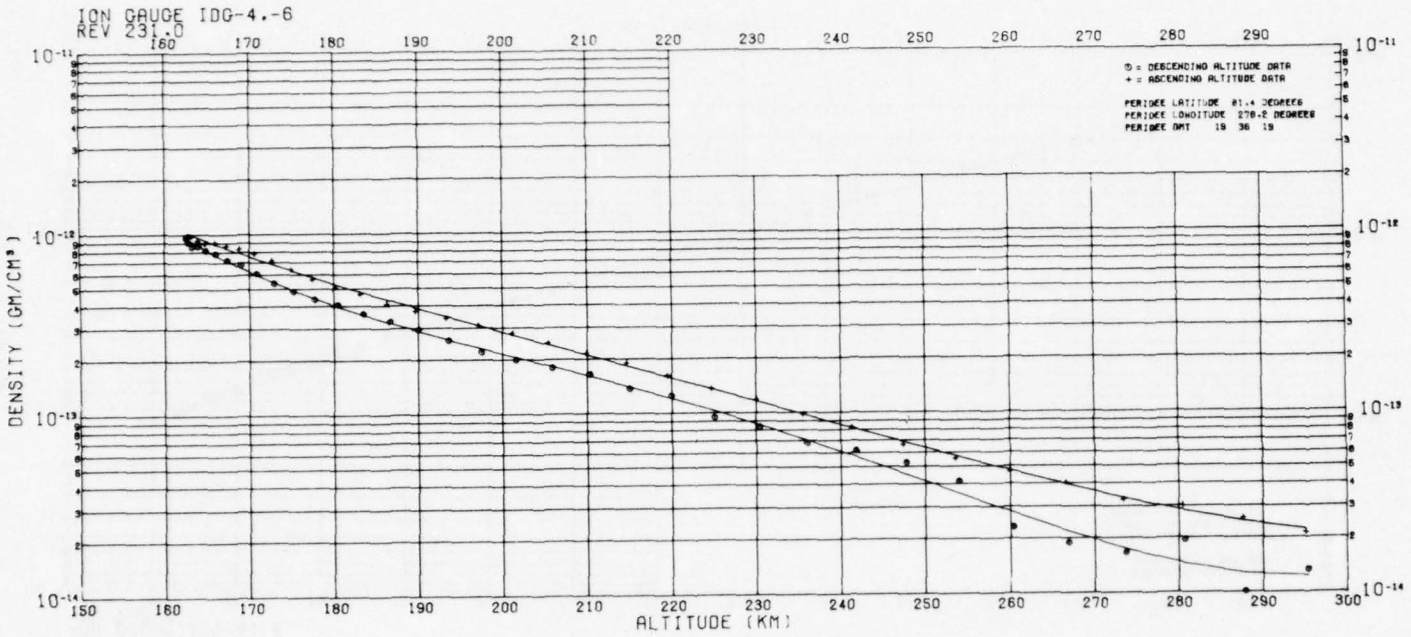

ION GAUGE IDG-4,-6
REV 218.0
⊙ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 79.8 DEGREES
PERIGEE LONGITUDE 309.4 DEGREES
PERIGEE GMT 18 41 25
DENSITY (GM/CM³)
ALTITUDE (KM)

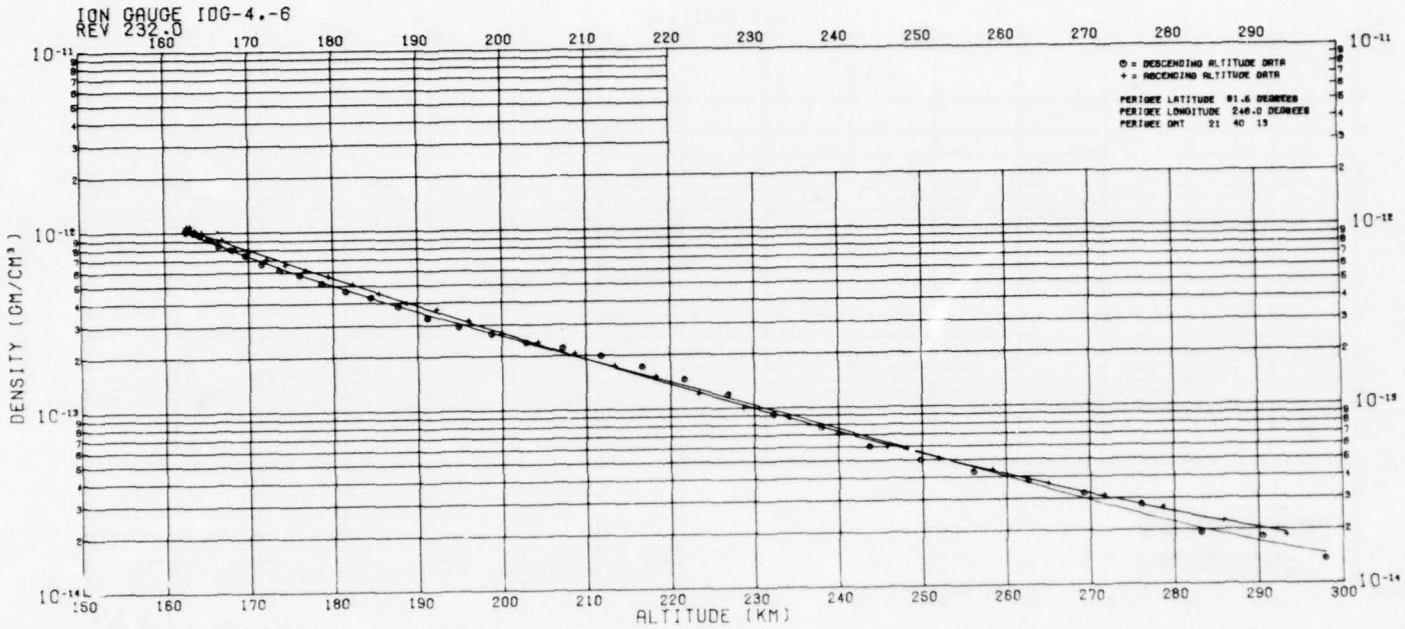

ION GAUGE IDG-4.-6
REV 220.0
DENSITY (GM/CM³)
ALTITUDE (KM)
150
160
170
180
190
200
210
220
230
240
250
260
270
280
290
300
10⁻¹¹
10⁻¹²
10⁻¹³
10⁻¹⁴
o = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 80.1 DEGREES
PERIGEE LONGITUDE 248.4 DEGREES
PERIGEE GMT 20 50 52

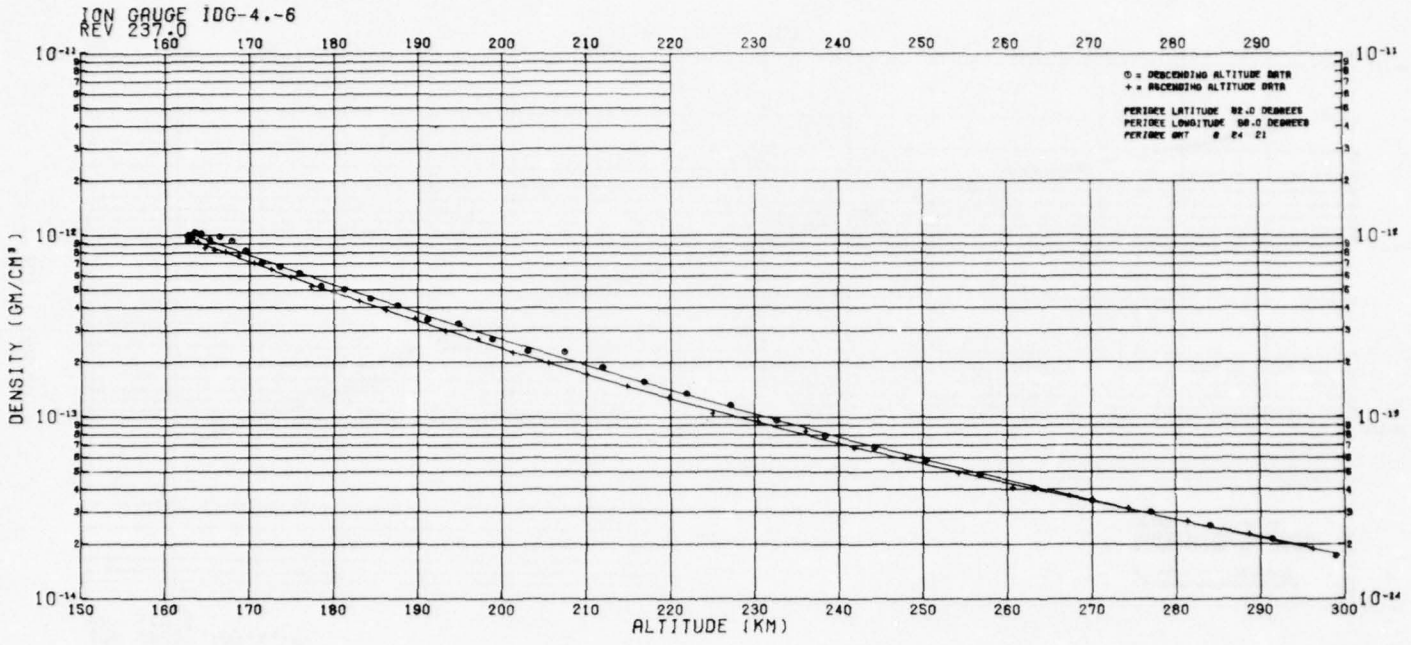

ION GAUGE IDG-4.-6
REV 221.0
© = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 80.2 DEGREES
PERIGEE LONGITUDE 218.3 DEGREES
PERIGEE GMT 22 54 13
DENSITY (GM/CM³)
ALTITUDE (KM)

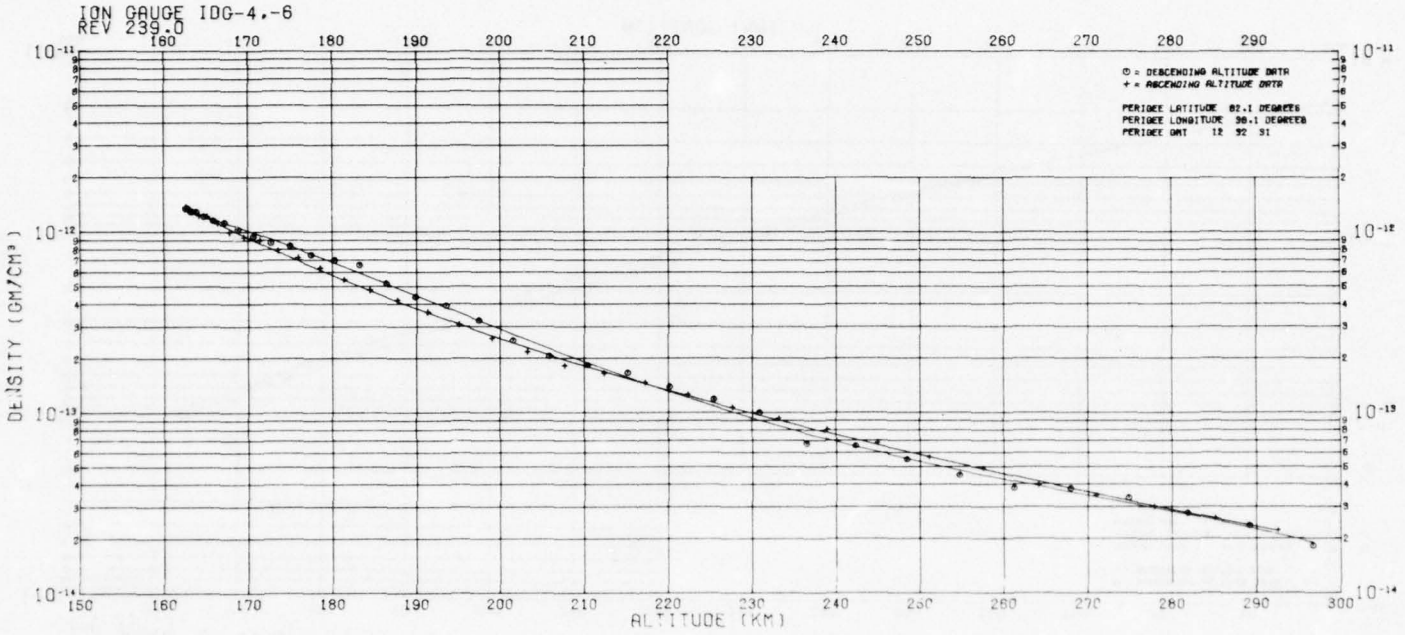

ION GAUGE IDG-4.-6
REV 223.0
⊙ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 80.6 DEGREES
PERIGEE LONGITUDE 167.6 DEGREES
PERIGEE GMT 3 2 22
DENSITY (GM/CM³)
ALTITUDE (KM)
10⁻¹¹
10⁻¹²
10⁻¹³
10⁻¹⁴
150
160
170
180
190
200
210
220
230
240
250
260
270
280
290
300

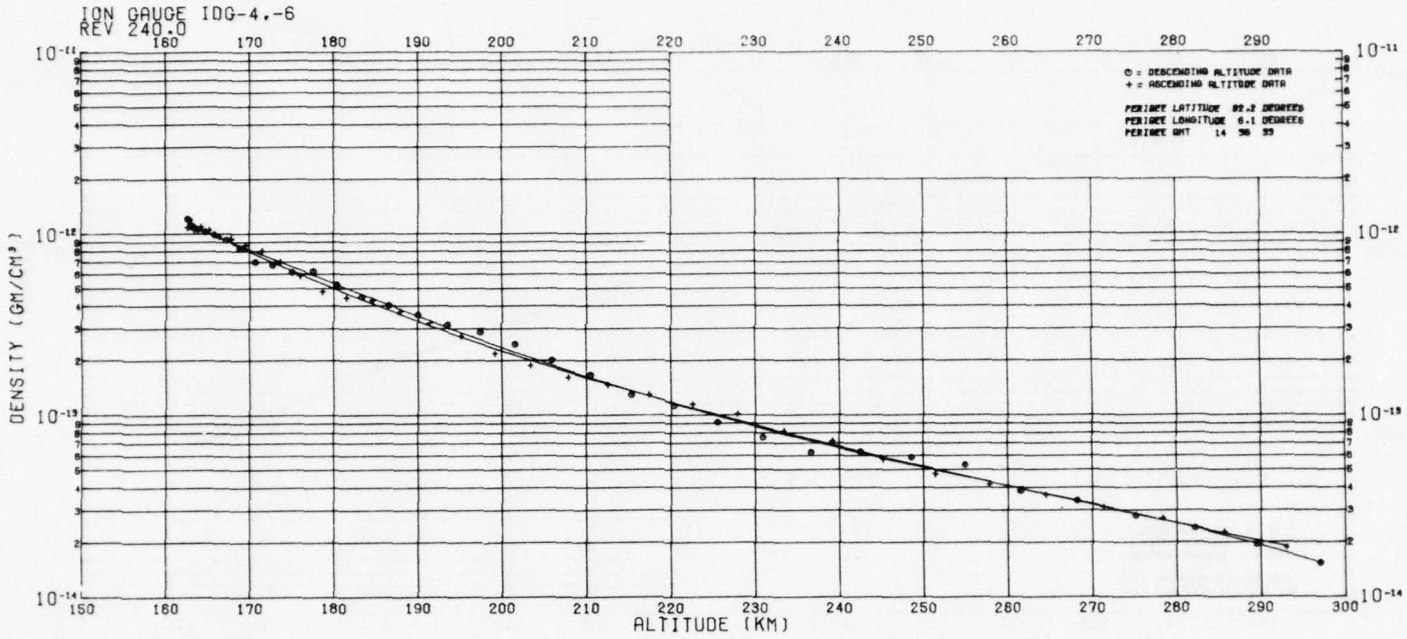

ION GAUGE IDG-4,-6
REV 228.0
o = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 81.1 DEGREES
PERIGEE LONGITUDE 8.2 DEGREES
PERIGEE GMT 13 24 44
DENSITY (GM/CM³)
ALTITUDE (KM)
150
160
170
180
190
200
210
220
230
240
250
260
270
280
290
300
10⁻¹¹
10⁻¹²
10⁻¹³
10⁻¹⁴

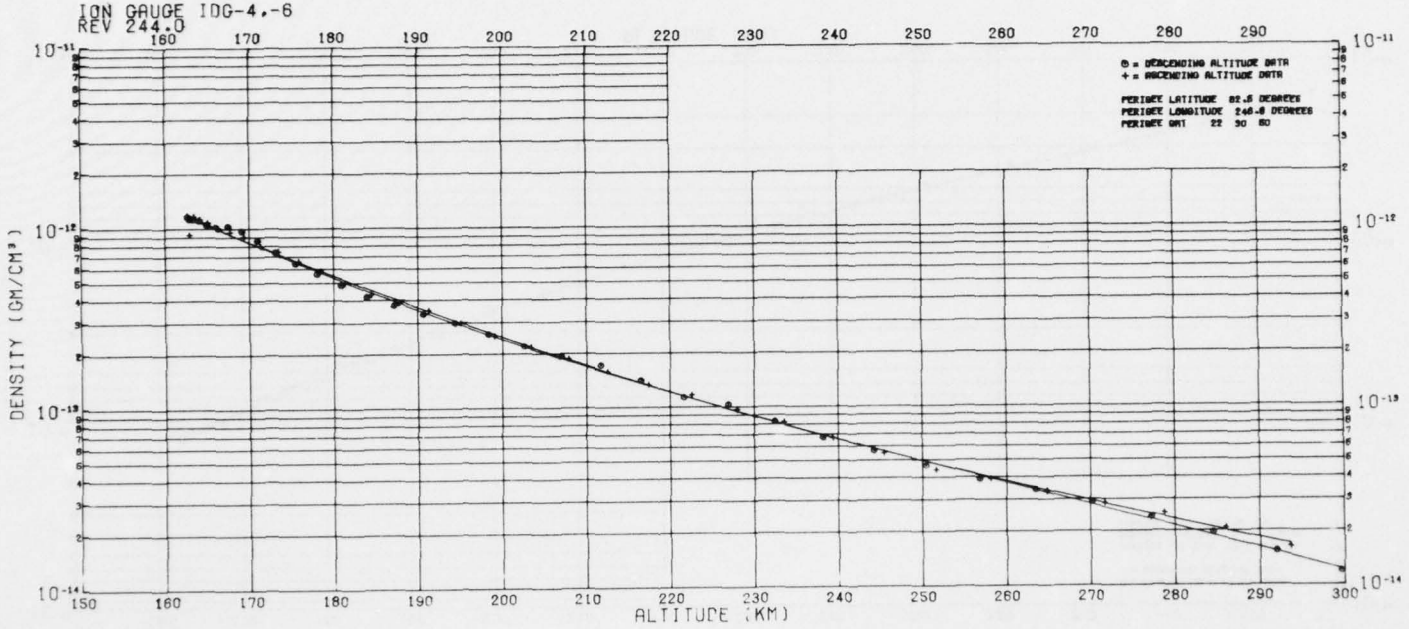

ION GAUGE IDG-4.-6
REV 231.0
D = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 81.4 DEGREES
PERIGEE LONGITUDE 278.2 DEGREES
PERIGEE GMT 19 36 19
DENSITY (GM/CM³)
ALTITUDE (KM)
10⁻¹¹
10⁻¹²
10⁻¹³
10⁻¹⁴
150
160
170
180
190
200
210
220
230
240
250
260
270
280
290
300

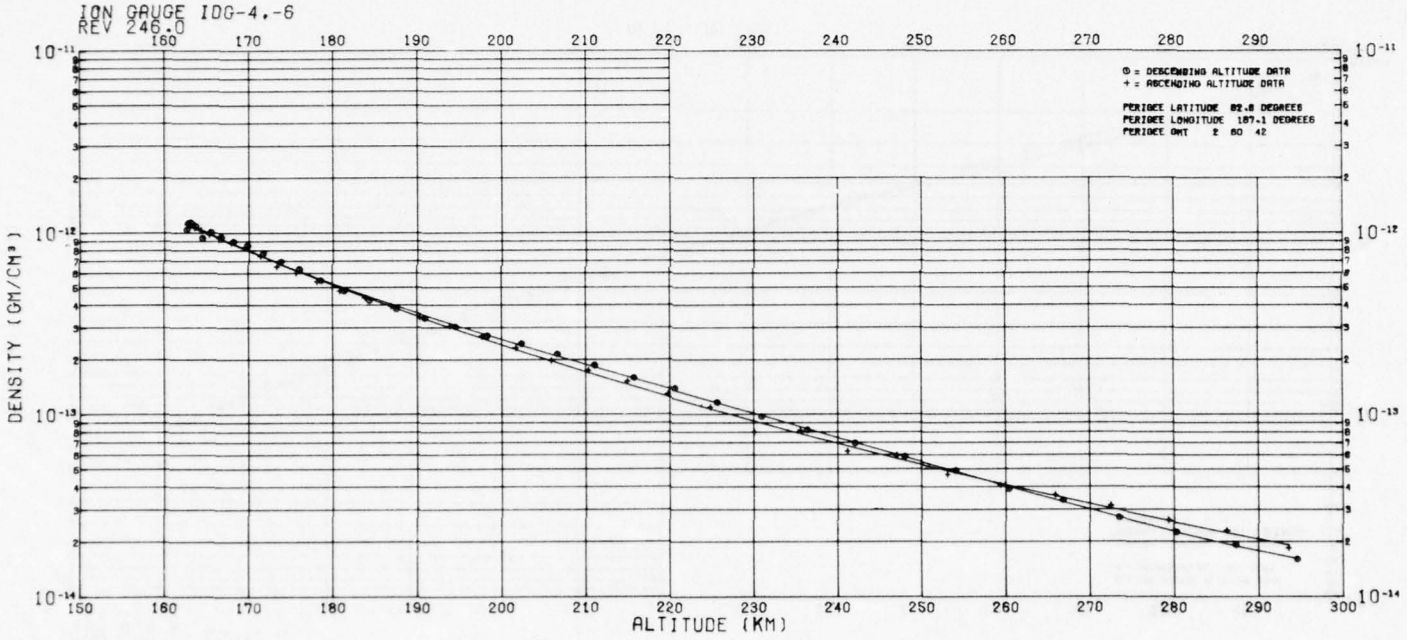

ION GAUGE IOG-4.-6
REV 232.0
⊖ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 81.6 DEGREES
PERIGEE LONGITUDE 248.0 DEGREES
PERIGEE GMT 21 40 13
DENSITY (GM/CM³)
ALTITUDE (KM)

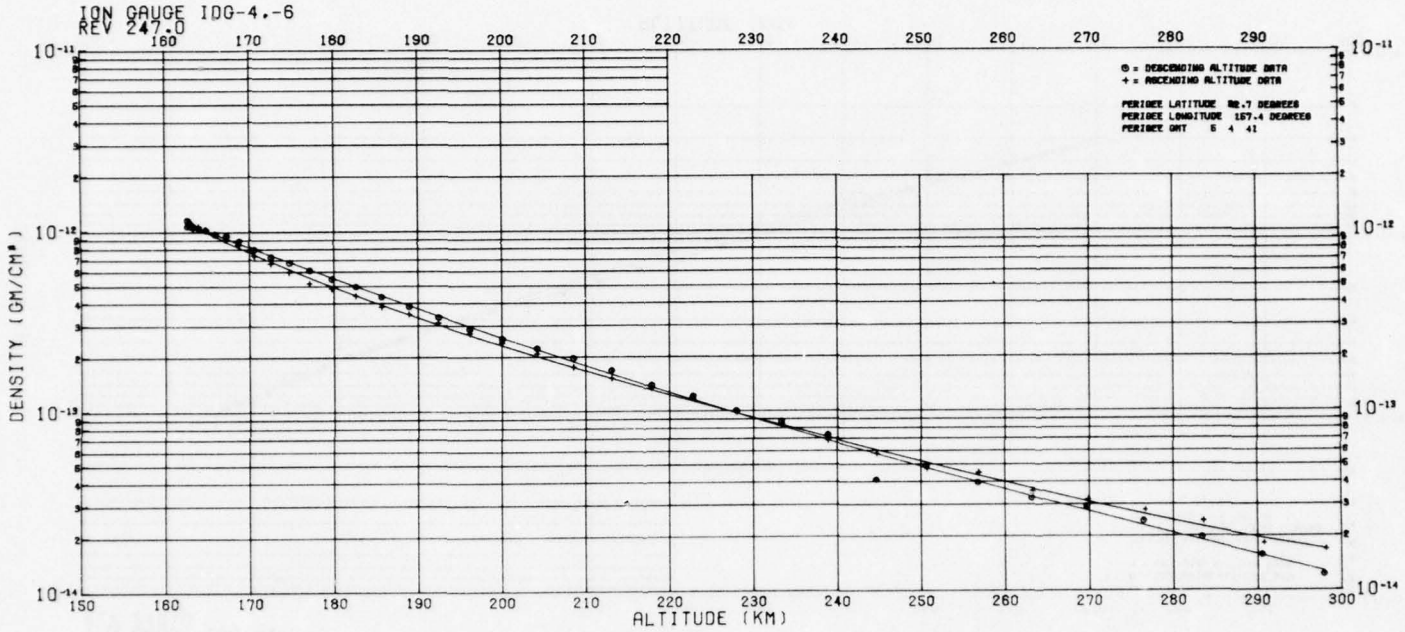

ION GAUGE IDG-4.-6
REV 237.0
- = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 82.0 DEGREES
PERIGEE LONGITUDE 80.0 DEGREES
PERIGEE GMT 0 24 21
DENSITY (GM/CM³)
ALTITUDE (KM)

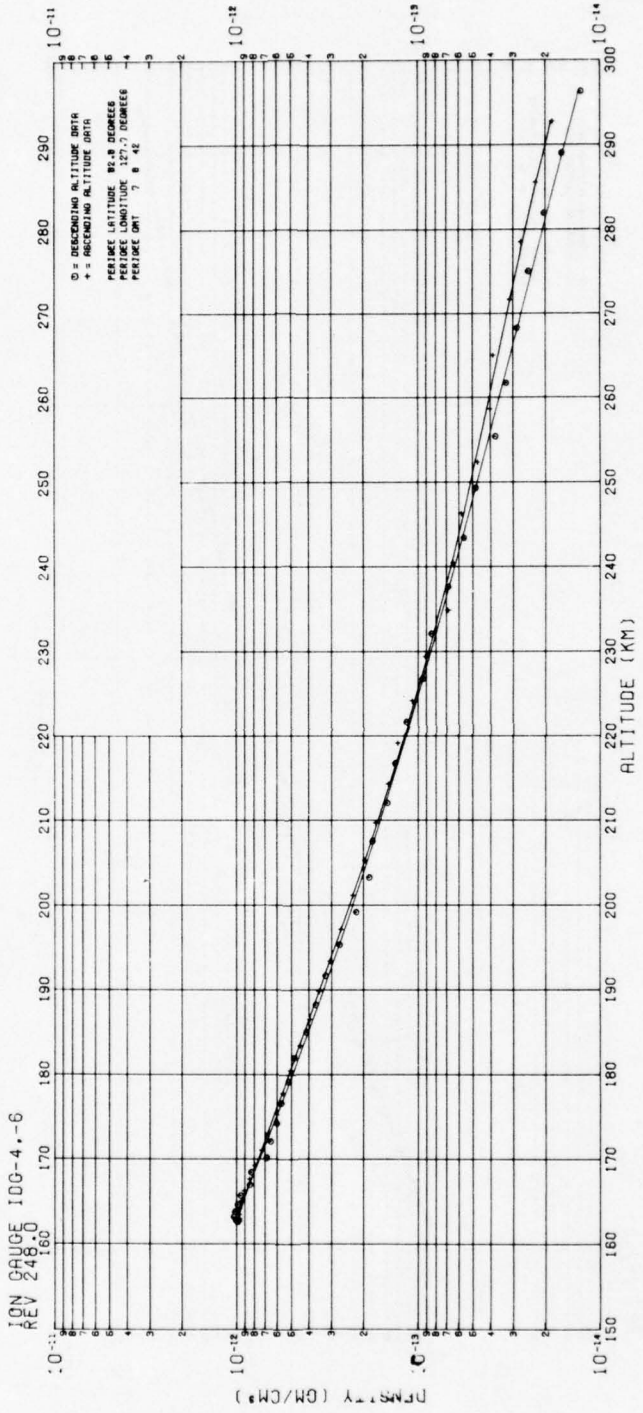

ION GAUGE IDG-4,-6
REV 239.0
⊙ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 82.1 DEGREES
PERIGEE LONGITUDE 30.1 DEGREES
PERIGEE GMT 12 32 31
DENSITY (GM/CM³)
ALTITUDE (KM)

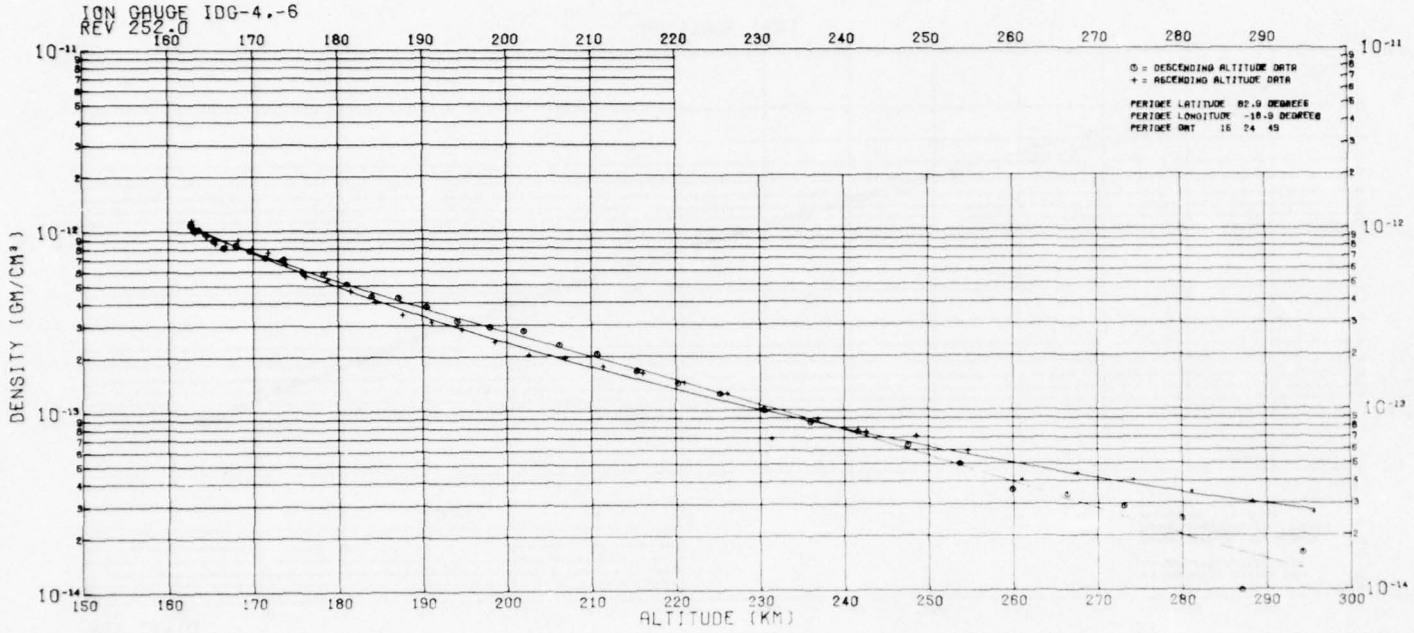

ION GAUGE IDG-4,-6
REV 240.0
⊙ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 82.2 DEGREES
PERIGEE LONGITUDE 6.1 DEGREES
PERIGEE GMT 14 58 33
DENSITY (GM/CM³)
ALTITUDE (KM)
150
160
170
180
190
200
210
220
230
240
250
260
270
280
290
300
10⁻¹¹
10⁻¹²
10⁻¹³
10⁻¹⁴

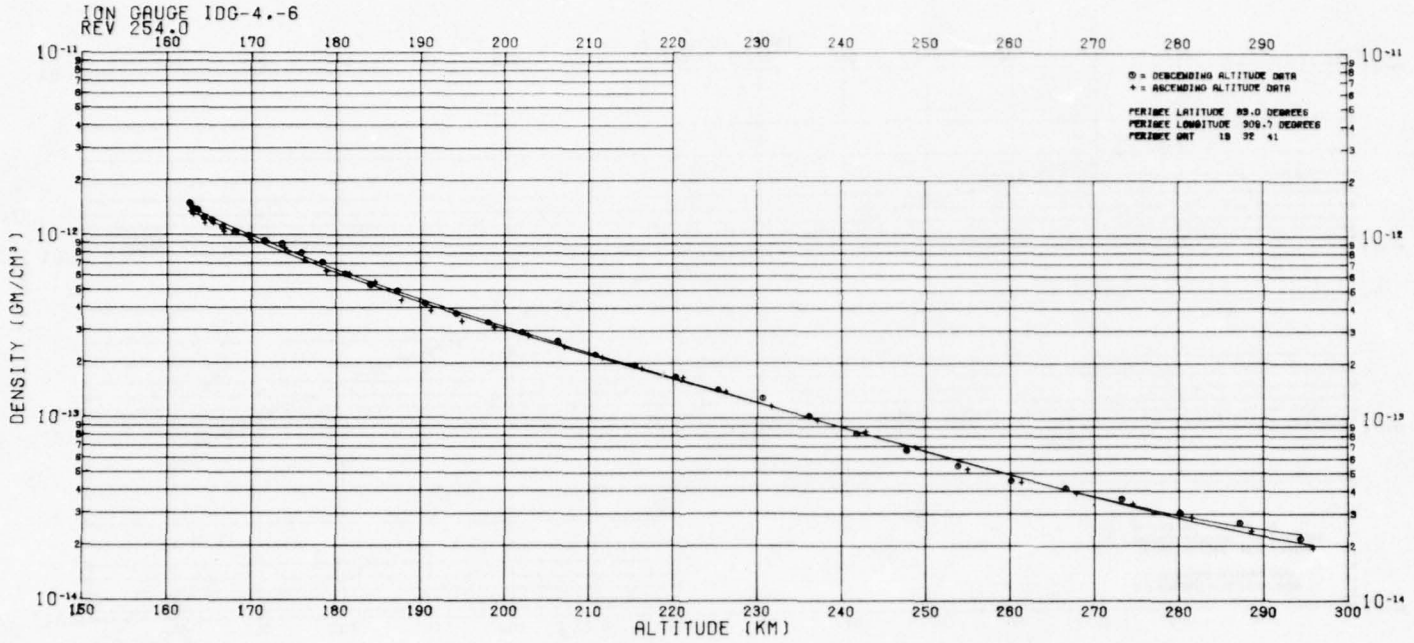

ION GAUGE IDG-4,-6
REV 244.0
⊖ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 82.5 DEGREES
PERIGEE LONGITUDE 240.0 DEGREES
PERIGEE GMT 22 30 00
DENSITY (GM/CM³)
ALTITUDE (KM)
10⁻¹¹
10⁻¹²
10⁻¹³
10⁻¹⁴
150
160
170
180
190
200
210
220
230
240
250
260
270
280
290
300

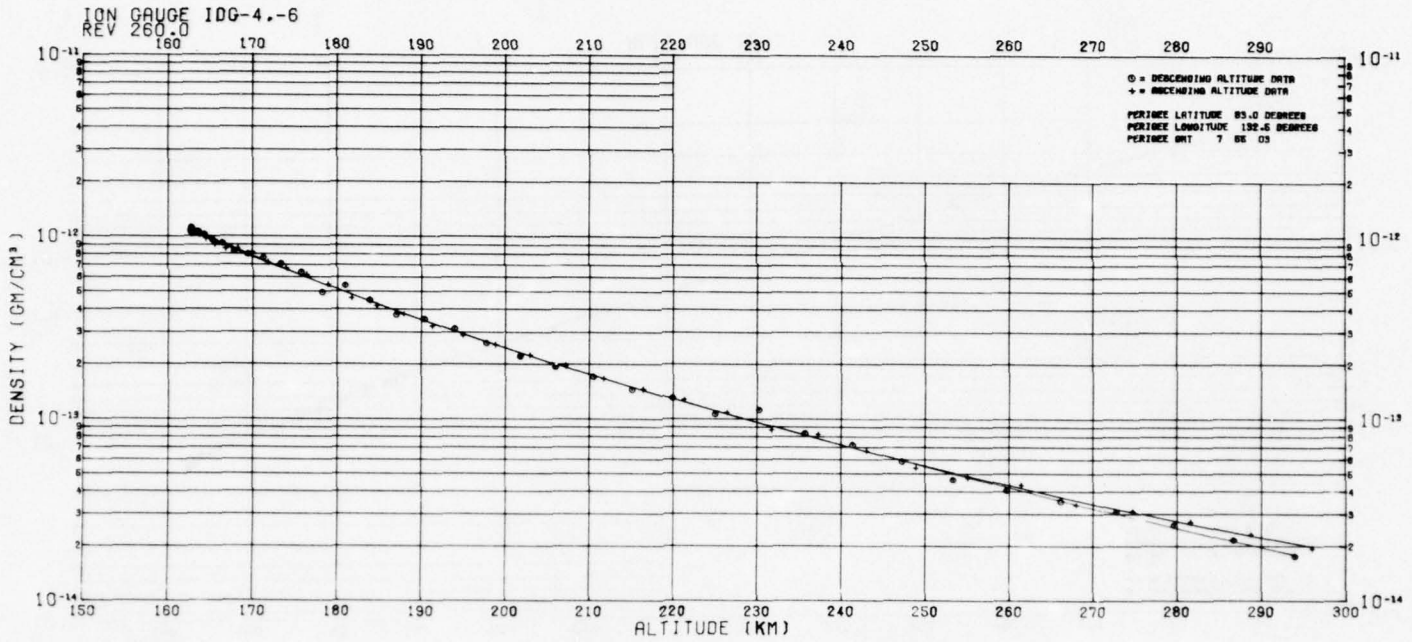

ION GAUGE IDG-4,-6
REV 246.0
⊖ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 82.8 DEGREES
PERIGEE LONGITUDE 187.1 DEGREES
PERIGEE GMT 2 80 42
DENSITY (GM/CM³)
ALTITUDE (KM)
10⁻¹¹
10⁻¹²
10⁻¹³
10⁻¹⁴
150
160
170
180
190
200
210
220
230
240
250
260
270
280
290
300

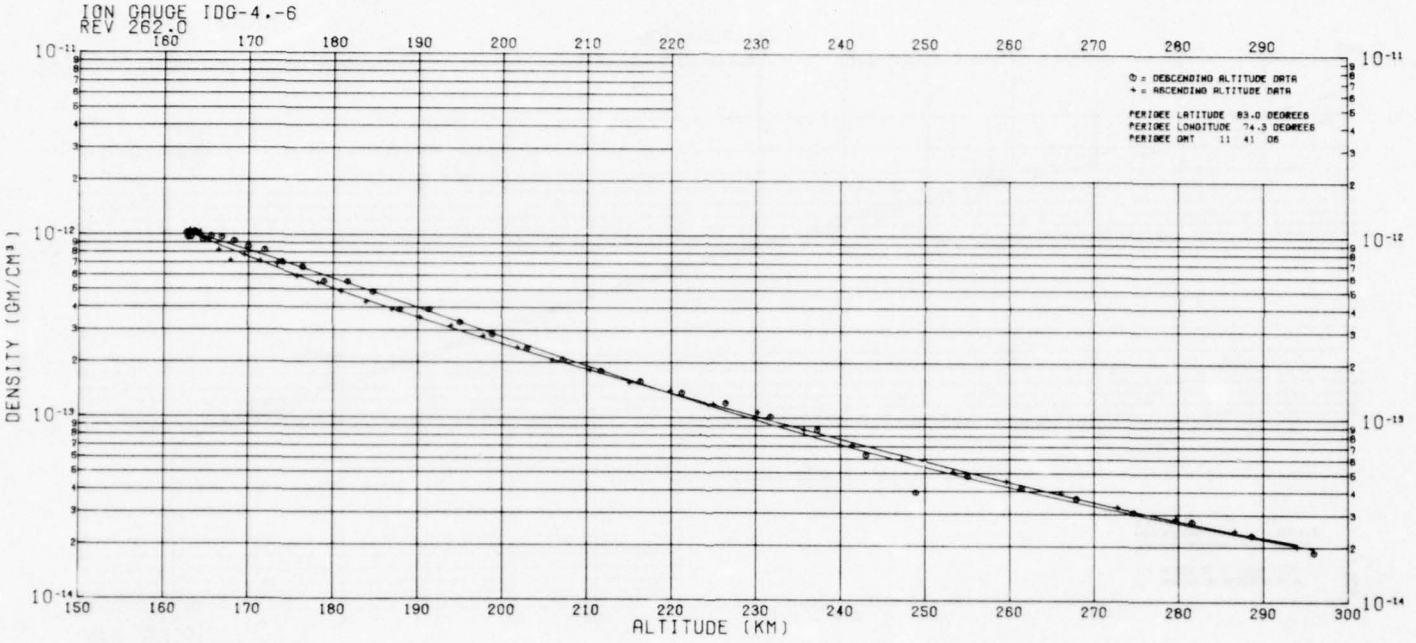

ION GAUGE IDG-4,-6
REV 247.0
⊖ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 82.7 DEGREES
PERIGEE LONGITUDE 167.4 DEGREES
PERIGEE GMT 5 4 41
DENSITY (GM/CM³)
ALTITUDE (KM)

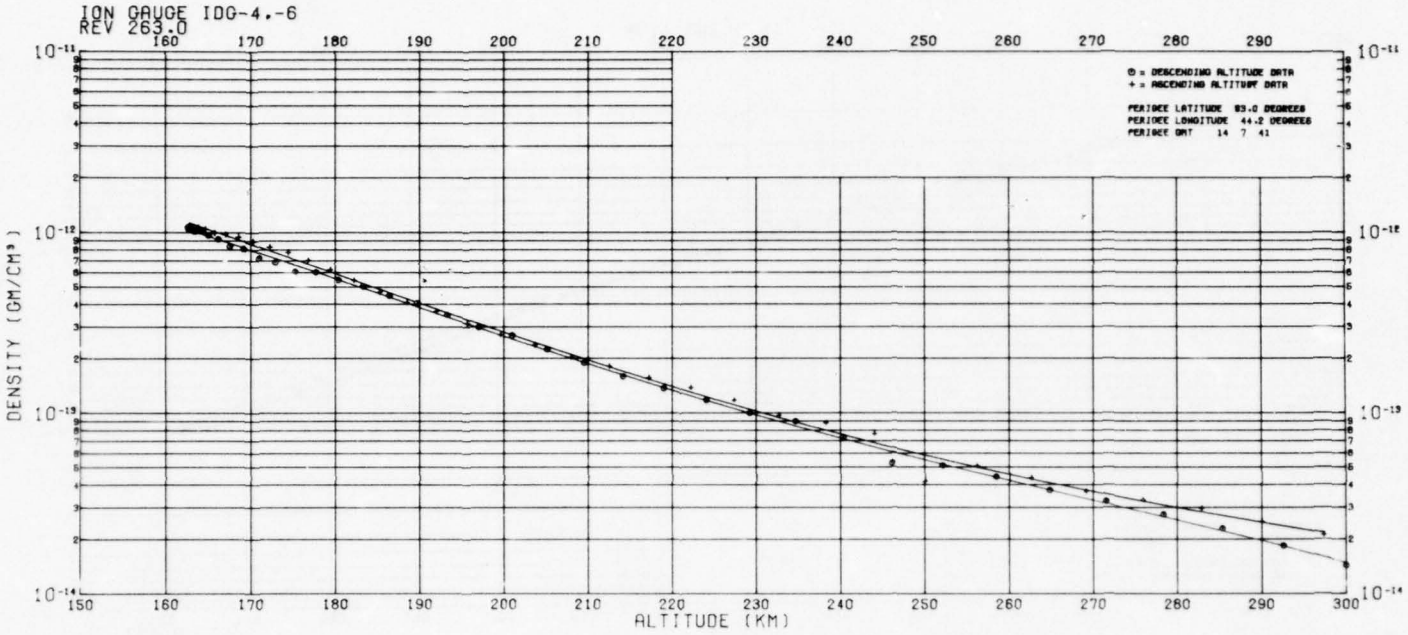

ION GAUGE IDG-4,-6
REV 248.0
O = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 82.8 DEGREES
PERIGEE LONGITUDE 127.7 DEGREES
PERIGEE GMT 7 8 42
DENSITY (GM/CM³)
ALTITUDE (KM)

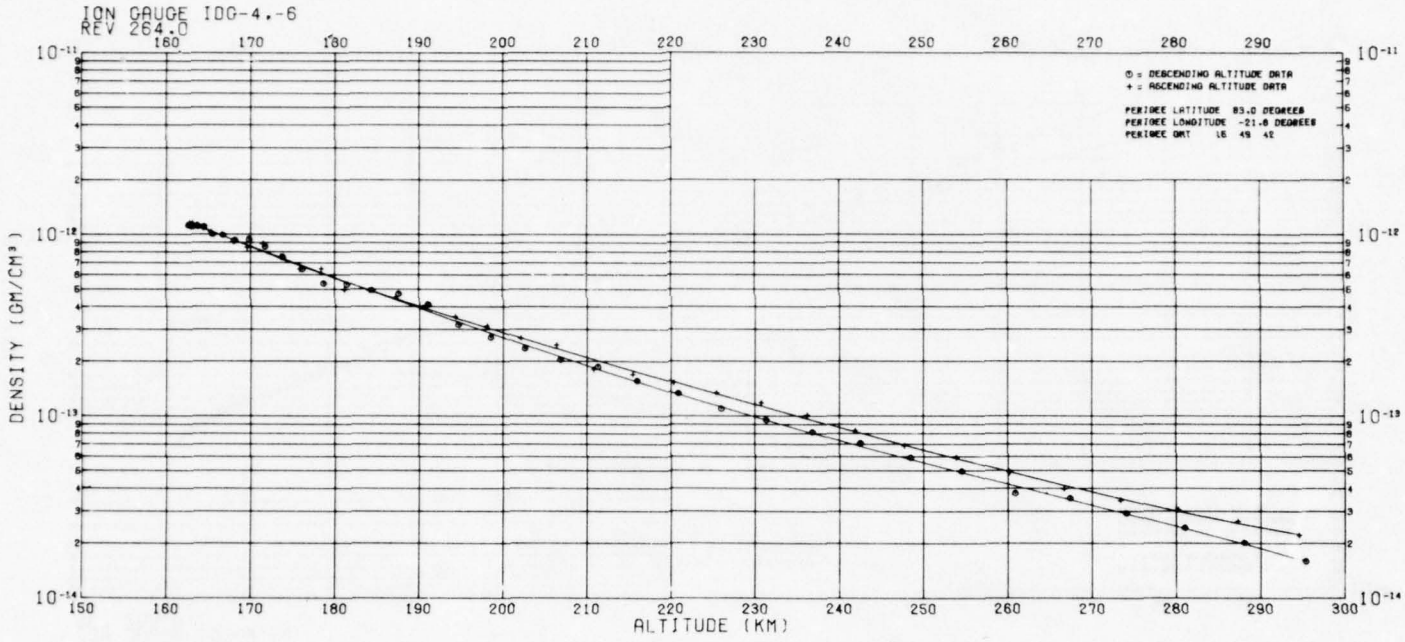

ION GAUGE IDG-4,-6
REV 252.0
⊙ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 82.9 DEGREES
PERIGEE LONGITUDE -18.9 DEGREES
PERIGEE GMT 16 24 49
DENSITY (GM/CM³)
ALTITUDE (KM)

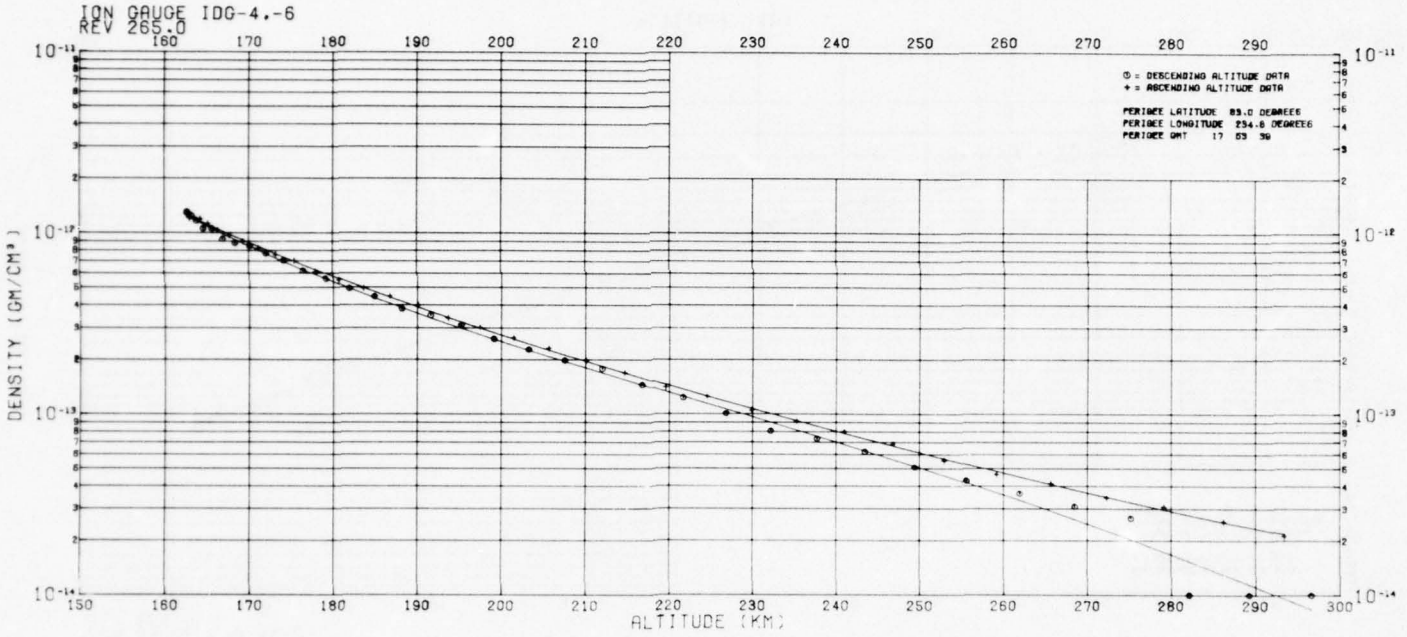

ION GAUGE IDG-4,-6
REV 254.0
⊙ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 83.0 DEGREES
PERIGEE LONGITUDE 309.7 DEGREES
PERIGEE GMT 18 32 41
DENSITY (GM/CM³)
ALTITUDE (KM)

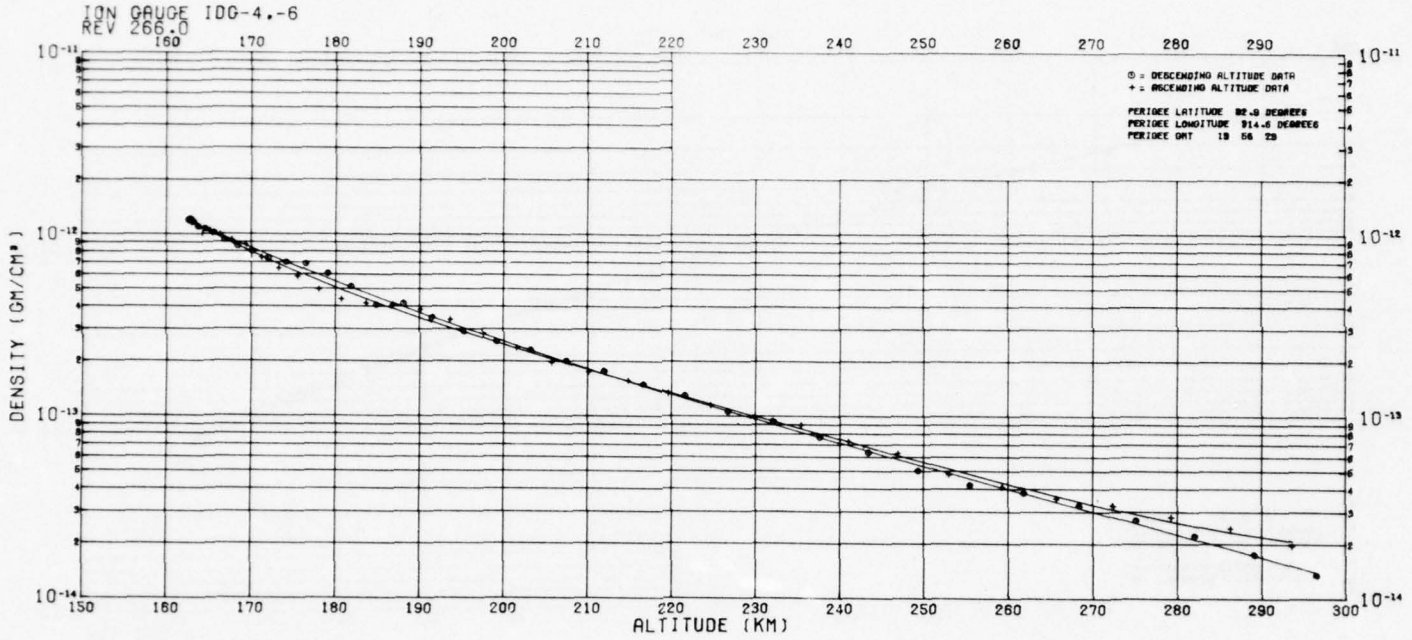

ION GAUGE IDG-4.-6
REV 260.0
⊙ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 83.0 DEGREES
PERIGEE LONGITUDE 132.5 DEGREES
PERIGEE GMT 7 DE 03
DENSITY (GM/CM³)
ALTITUDE (KM)

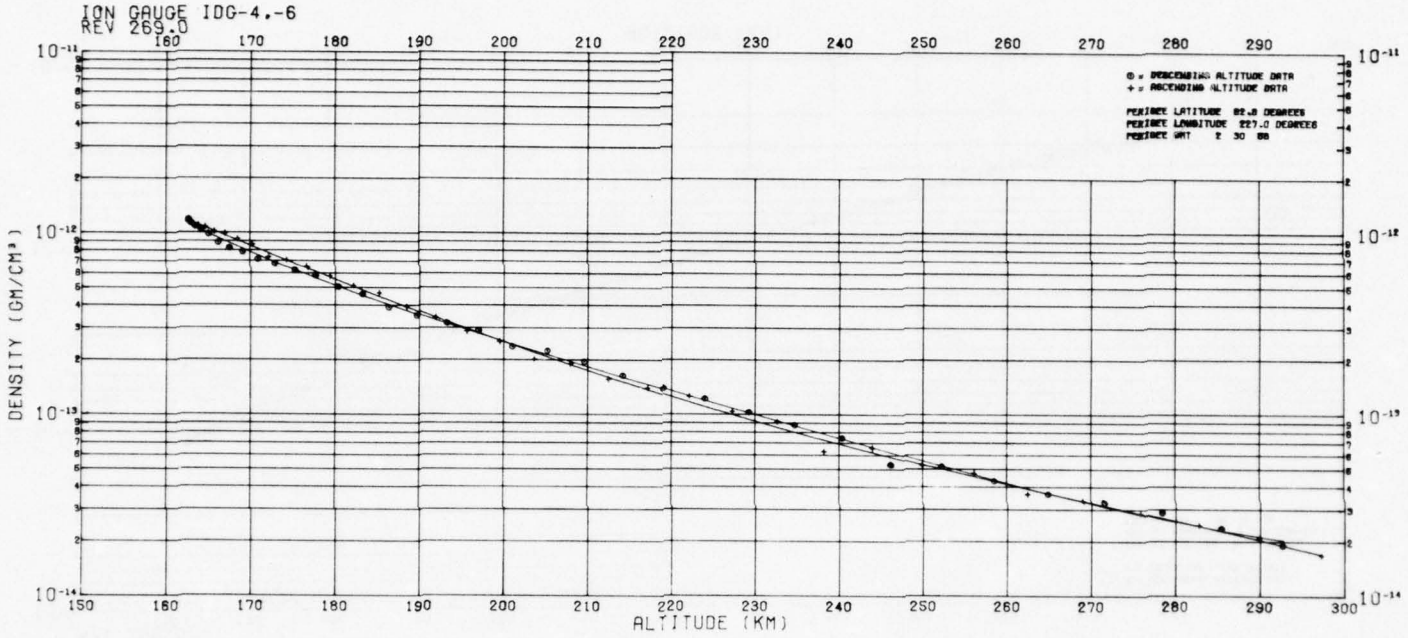

ION GAUGE IDG-4.-6
REV 262.0
⊖ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 83.0 DEGREES
PERIGEE LONGITUDE 74.3 DEGREES
PERIGEE GMT 11 41 08
DENSITY (GM/CM³)
ALTITUDE (KM)

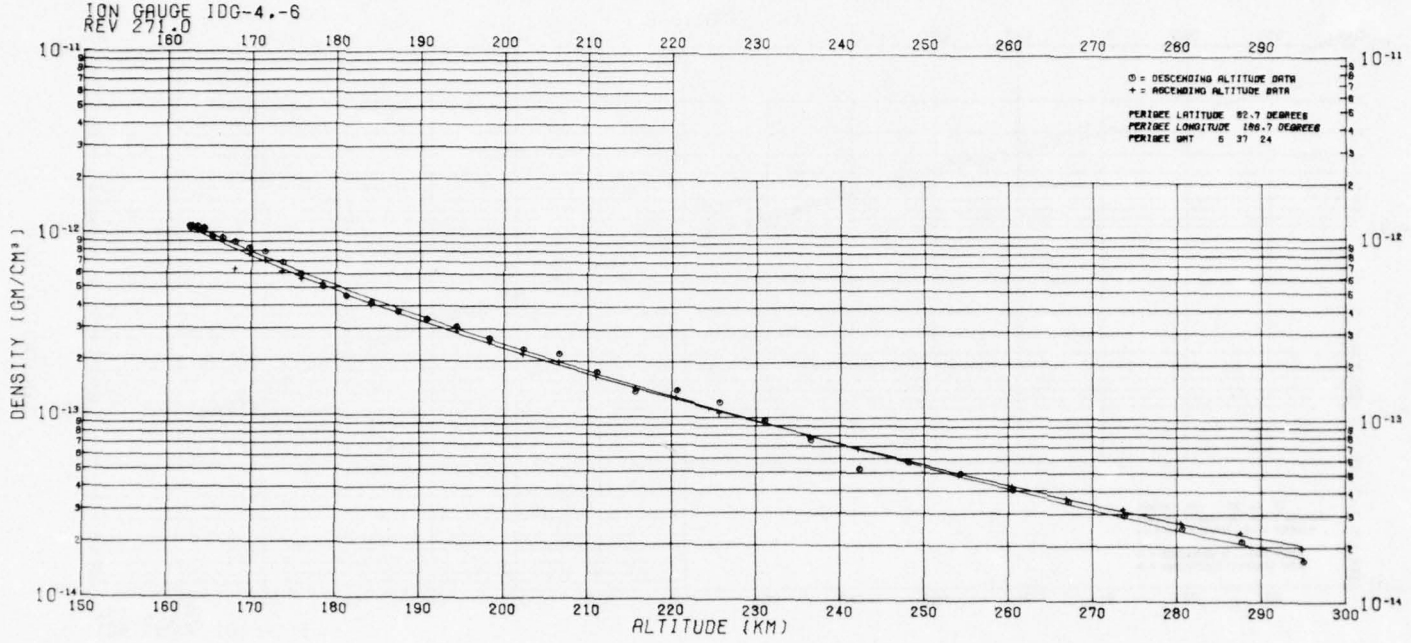

ION GAUGE IDG-4.-6
REV 263.0
⊖ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 83.0 DEGREES
PERIGEE LONGITUDE 44.2 DEGREES
PERIGEE GMT 14 7 41
DENSITY (GM/CM³)
ALTITUDE (KM)
10⁻¹¹
10⁻¹²
10⁻¹³
10⁻¹⁴
150
160
170
180
190
200
210
220
230
240
250
260
270
280
290
300

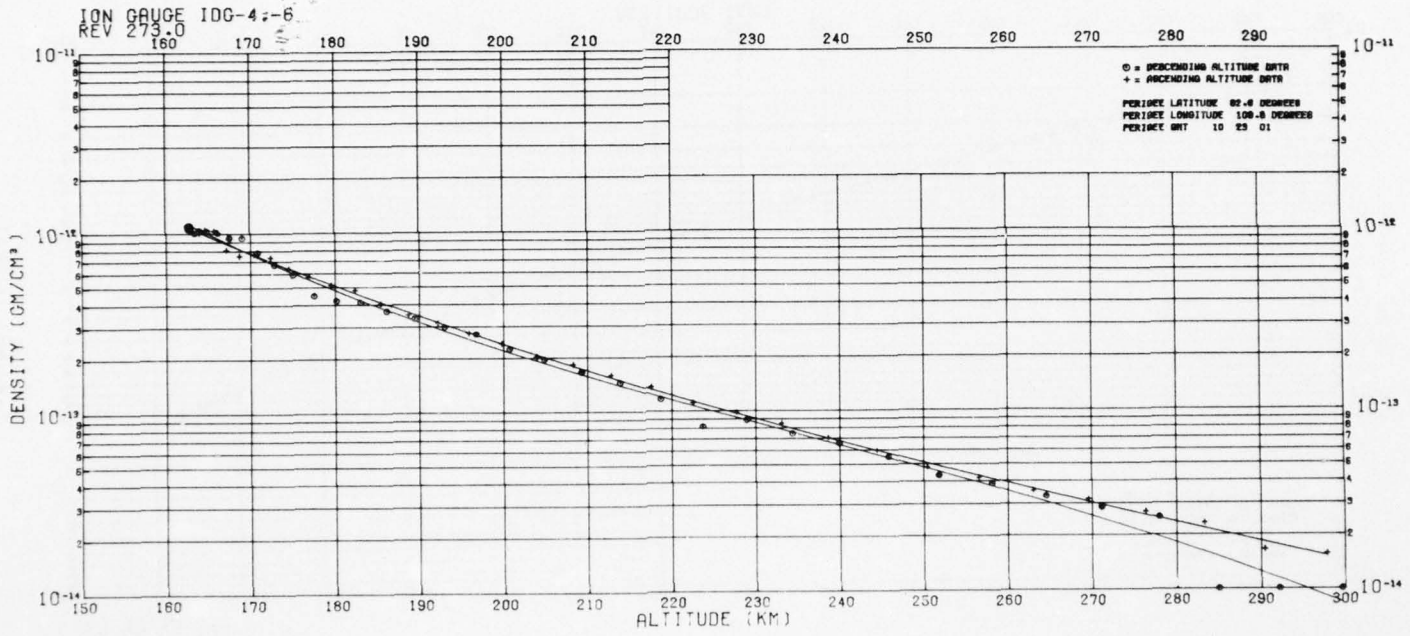

ION GAUGE IDG-4,-6
REV 264.0
⊖ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 83.0 DEGREES
PERIGEE LONGITUDE -21.0 DEGREES
PERIGEE GMT 16 45 42
DENSITY (GM/CM³)
ALTITUDE (KM)
10⁻¹¹
10⁻¹²
10⁻¹³
10⁻¹⁴
150
160
170
180
190
200
210
220
230
240
250
260
270
280
290
300

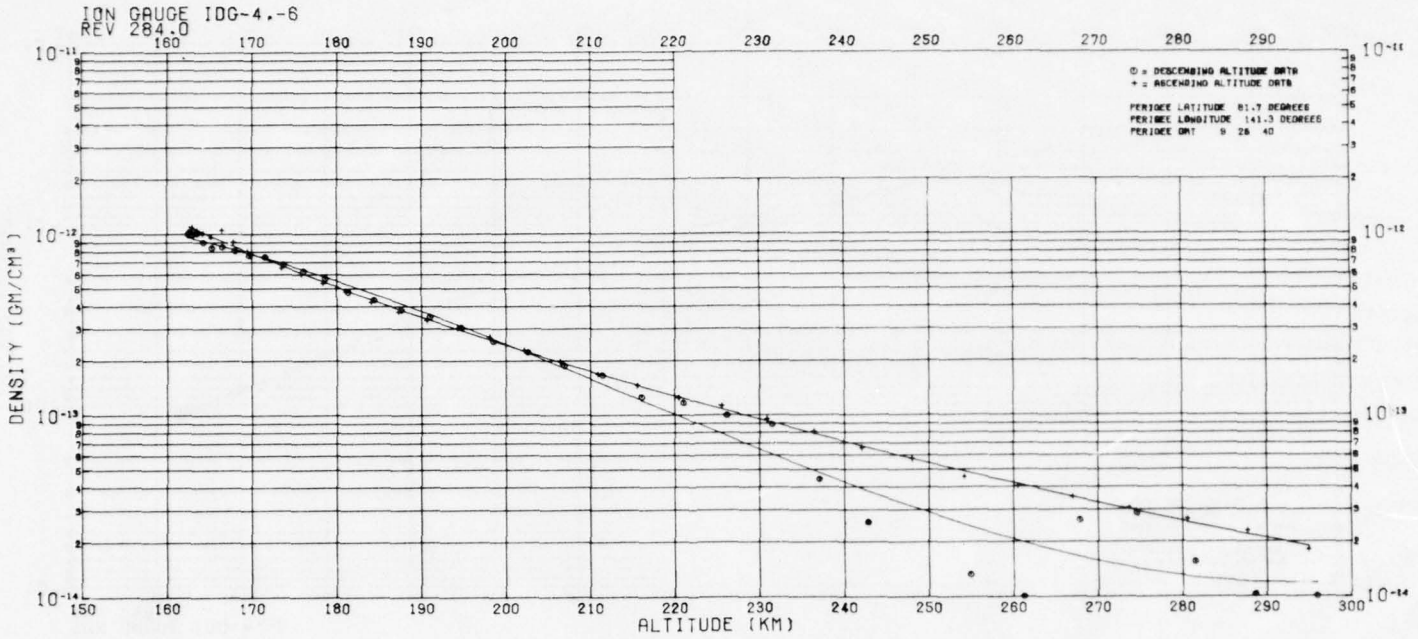

ION GAUGE IDG-4.-6
REV 265.0
⊖ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 89.0 DEGREES
PERIGEE LONGITUDE 254.8 DEGREES
PERIGEE GMT 17 53 36
DENSITY (GM/CM³)
ALTITUDE (KM)

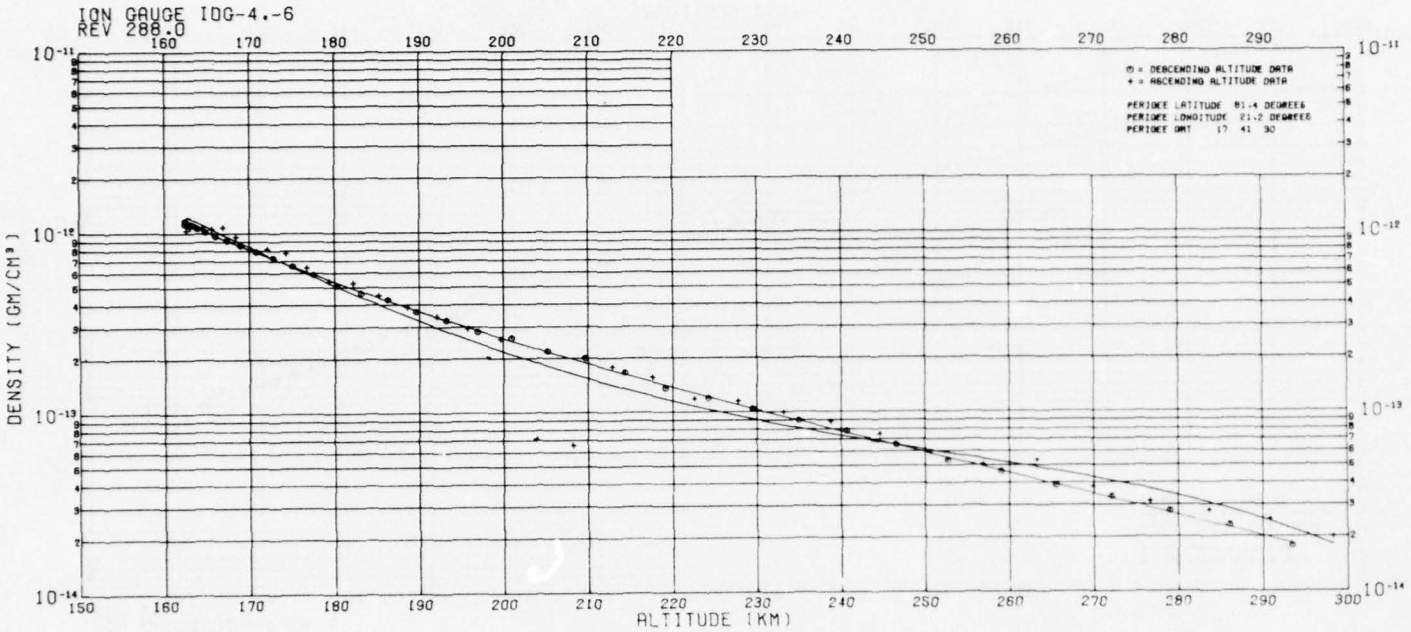

ION GAUGE IDG-4.-6
REV 266.0
⊙ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 82.9 DEGREES
PERIGEE LONGITUDE 314.6 DEGREES
PERIGEE GMT 18 56 28
DENSITY (GM/CM³)
ALTITUDE (KM)
10⁻¹¹
10⁻¹²
10⁻¹³
10⁻¹⁴
150
160
170
180
190
200
210
220
230
240
250
260
270
280
290
300

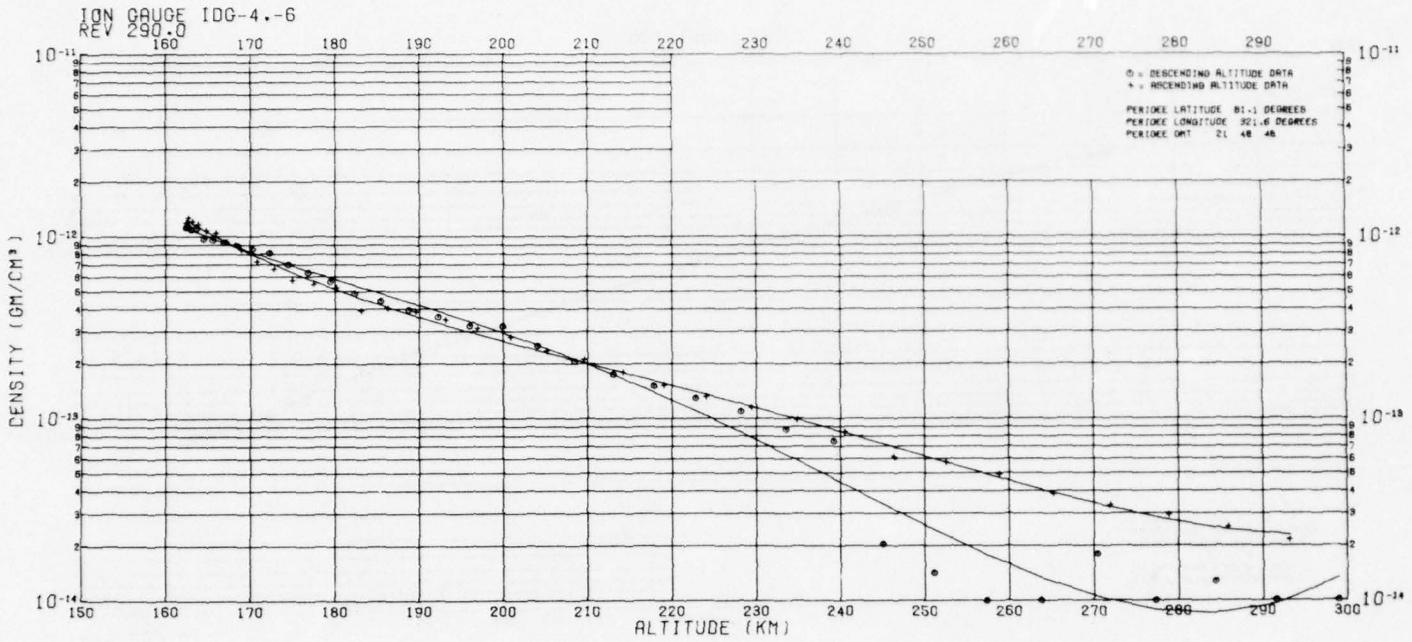

ION GAUGE IDG-4,-6
REV 269.0
DENSITY (GM/CM³)
ALTITUDE (KM)
⊙ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 82.8 DEGREES
PERIGEE LONGITUDE 227.0 DEGREES
PERIGEE GMT 2 30 00

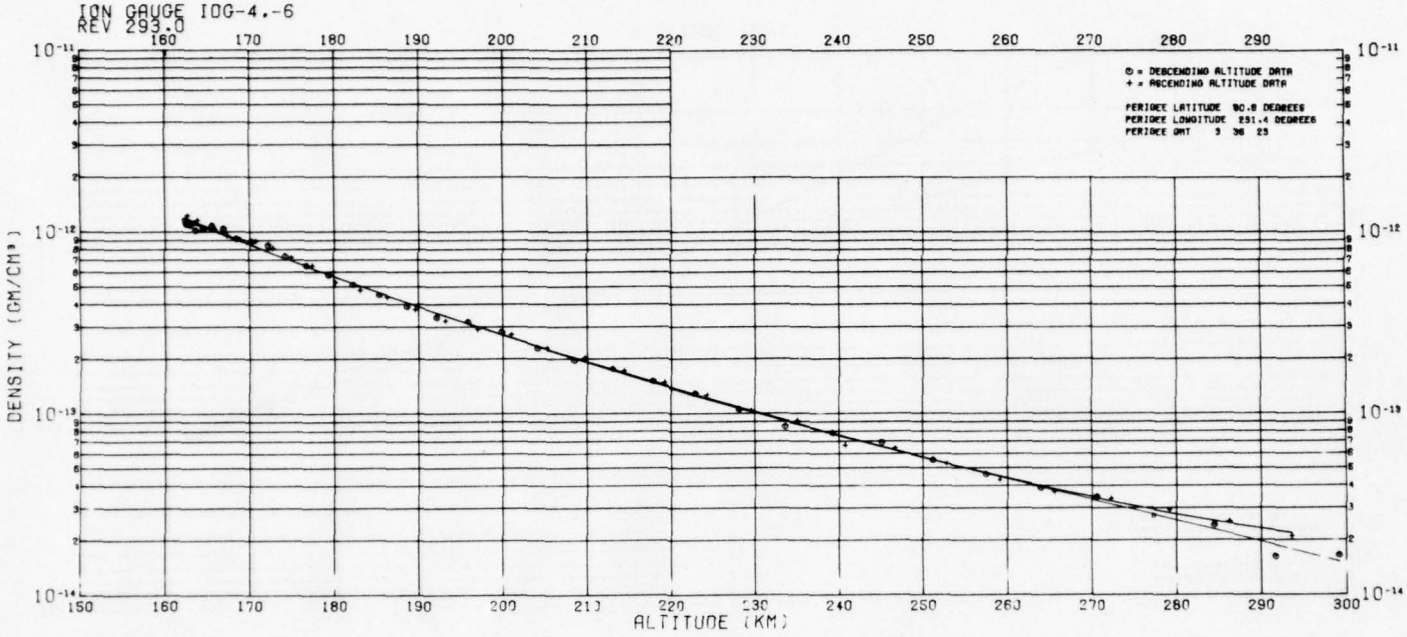

ION GAUGE IDG-4.-6
REV 271.0
⊙ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 82.7 DEGREES
PERIGEE LONGITUDE 186.7 DEGREES
PERIGEE GMT 5 37 24
DENSITY (GM/CM³)
ALTITUDE (KM)

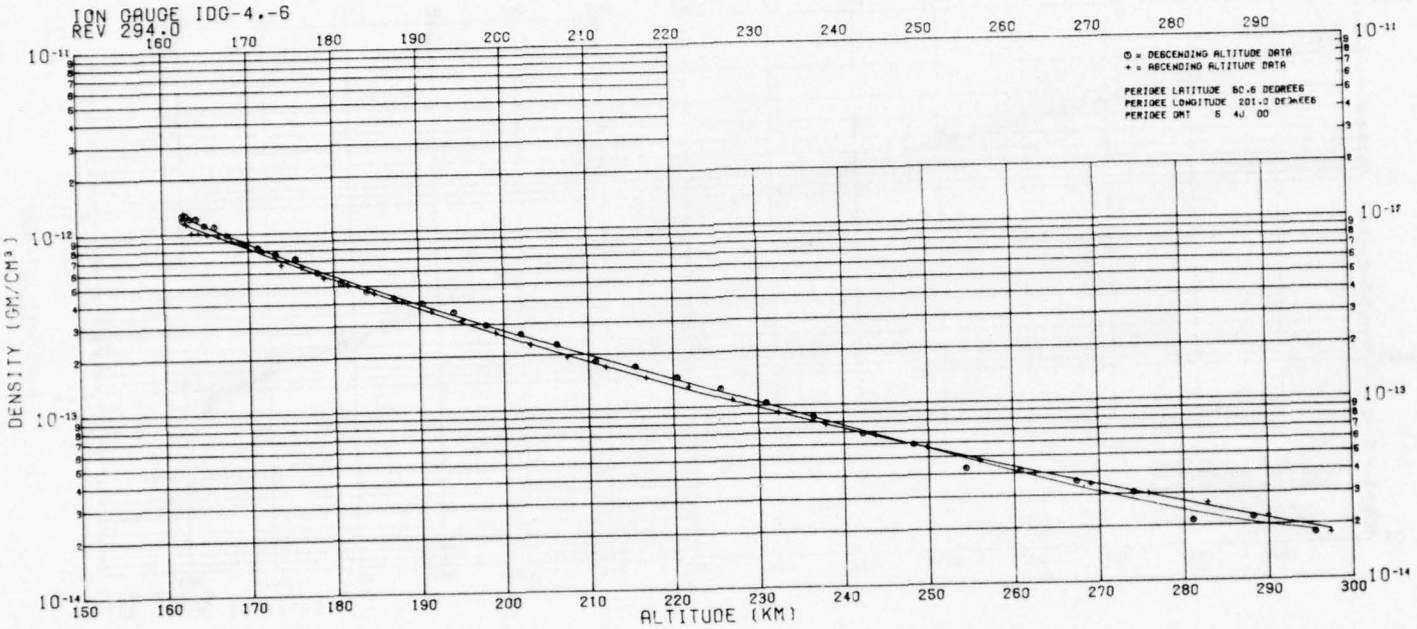

ION GAUGE IDG-4 -6
REV 273.0
⊙ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 82.8 DEGREES
PERIGEE LONGITUDE 100.8 DEGREES
PERIGEE GMT 10 23 01
DENSITY (GM/CM³)
ALTITUDE (KM)

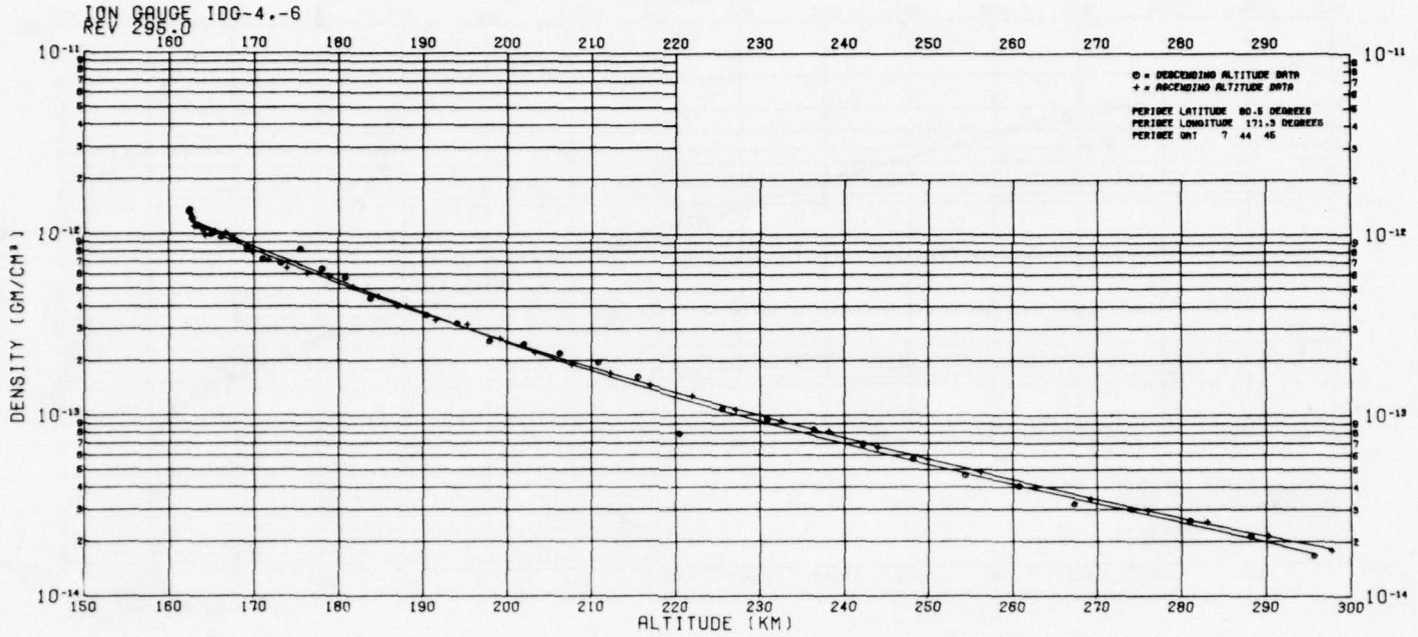

ION GAUGE IDG-4,-6
REV 284.0
DENSITY (GM/CM³)
ALTITUDE (KM)
150
160
170
180
190
200
210
220
230
240
250
260
270
280
290
300
10⁻¹¹
10⁻¹²
10⁻¹³
10⁻¹⁴
○ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 81.7 DEGREES
PERIGEE LONGITUDE 141.3 DEGREES
PERIGEE GMT 9 26 40

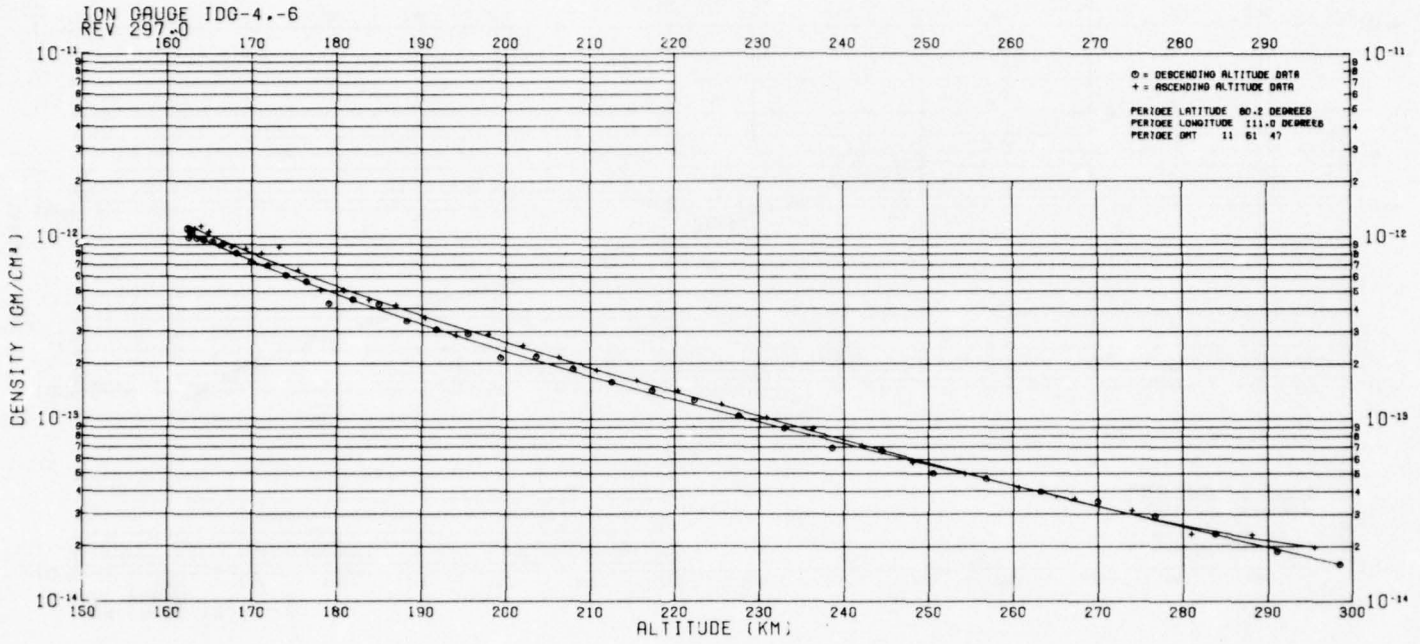

ION GAUGE IDG-4.-6
REV 288.0
⊖ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 81.4 DEGREES
PERIGEE LONGITUDE 21.2 DEGREES
PERIGEE GMT 17 41 30
DENSITY (GM/CM³)
ALTITUDE (KM)

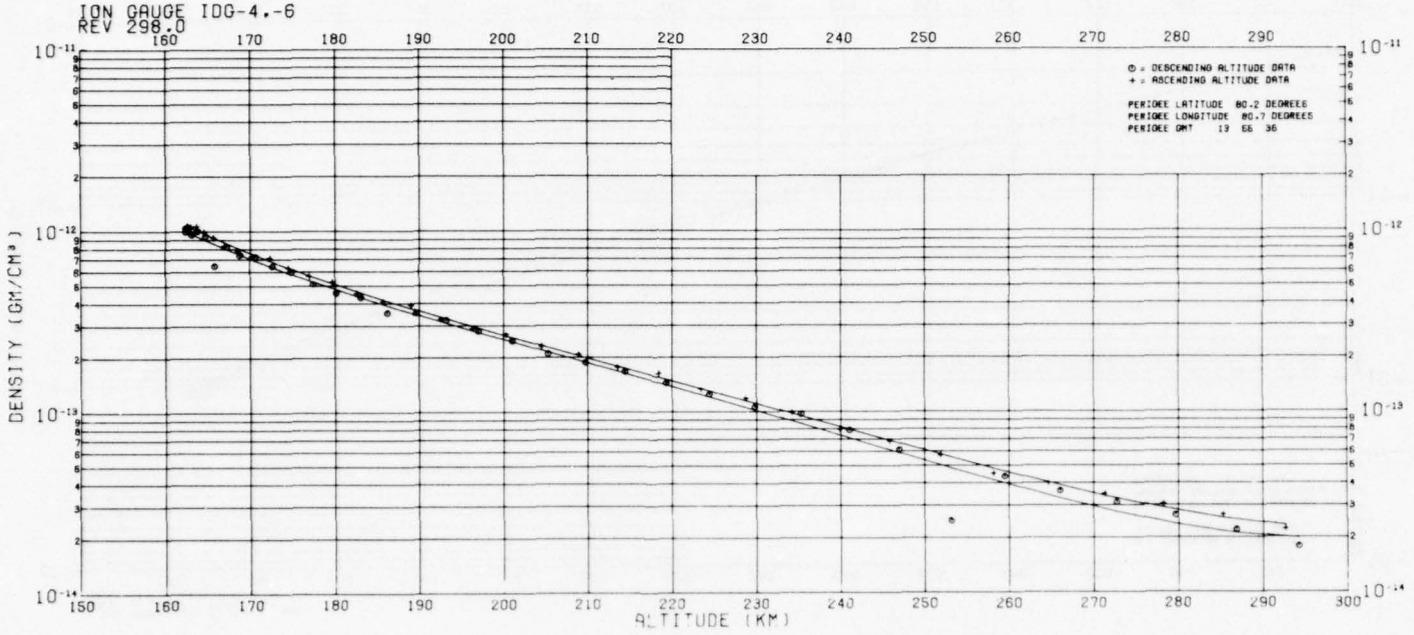

ION GAUGE IDG-4.-6
REV 290.0
⊙ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 81.1 DEGREES
PERIGEE LONGITUDE 321.6 DEGREES
PERIGEE GMT 21 48 46
DENSITY (GM/CM³)
ALTITUDE (KM)

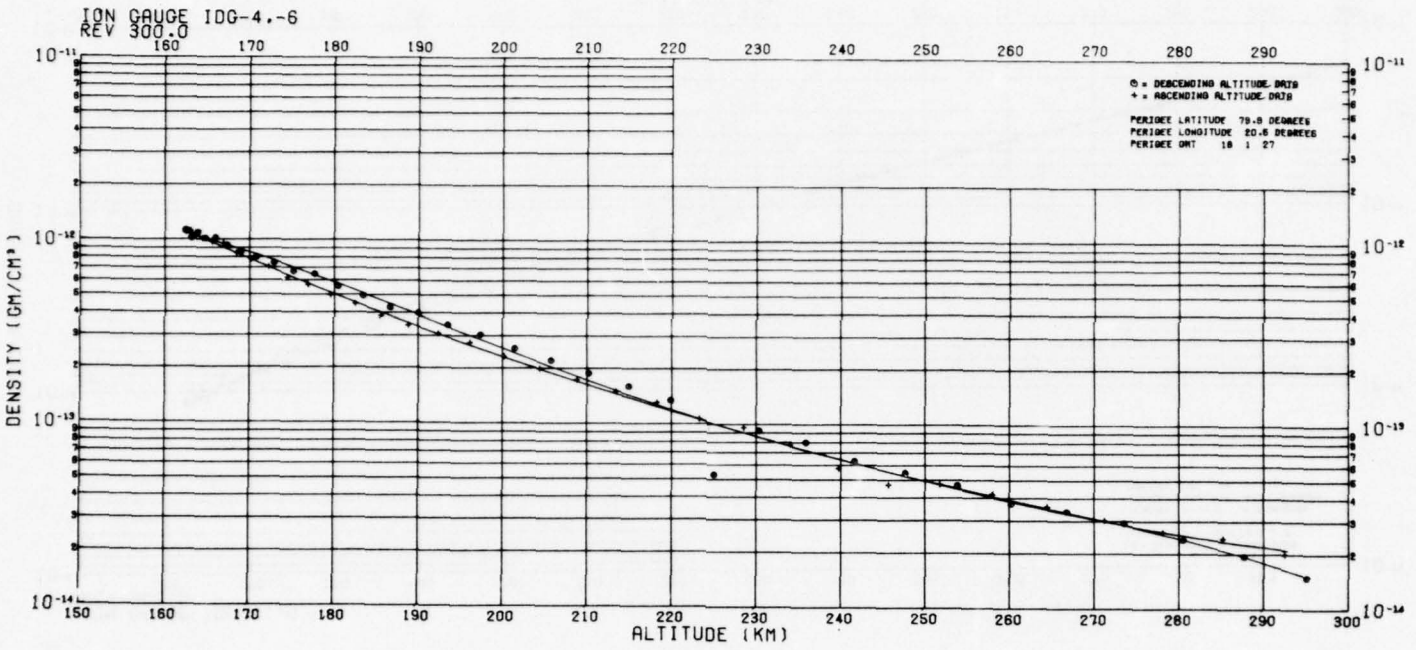

ION GAUGE IDG-4,-6
REV 293.0
⊙ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 90.8 DEGREES
PERIGEE LONGITUDE 251.4 DEGREES
PERIGEE GMT 9 36 23
DENSITY (GM/CM³)
ALTITUDE (KM)
10⁻¹¹
10⁻¹²
10⁻¹³
10⁻¹⁴
150
160
170
180
190
200
210
220
230
240
250
260
270
280
290
300

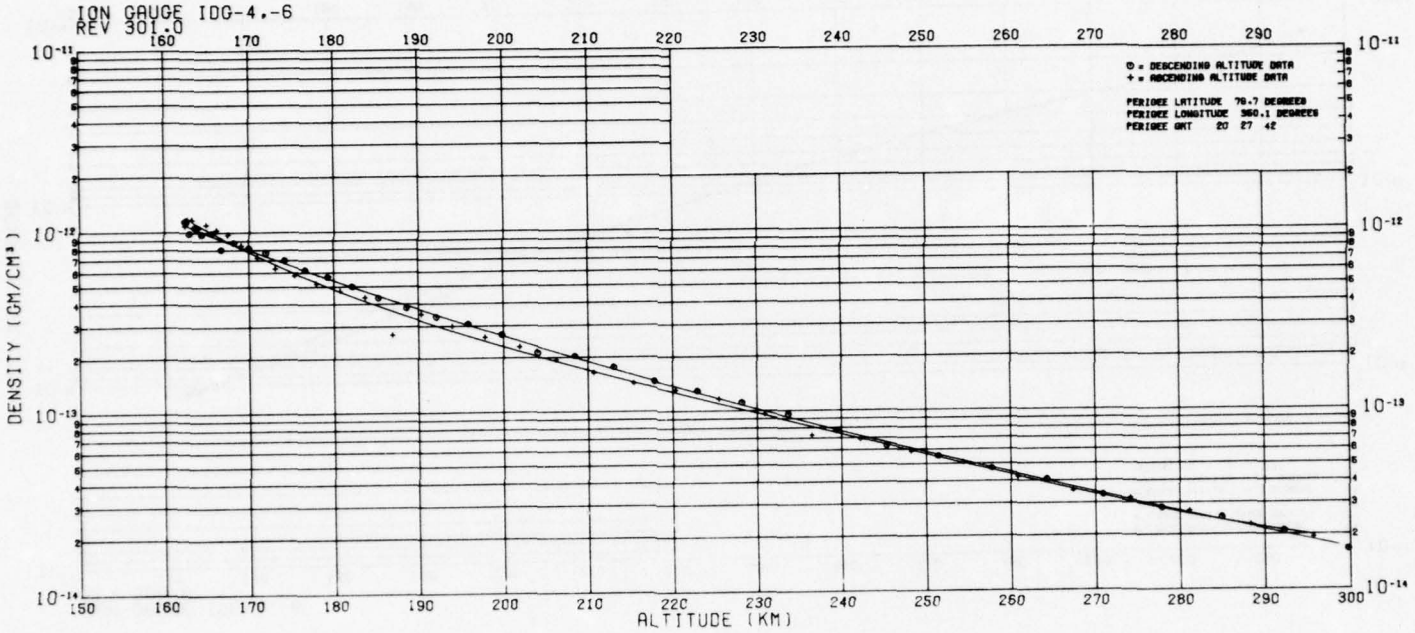

ION GAUGE IDG-4.-6
REV 294.0
⊙ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 60.6 DEGREES
PERIGEE LONGITUDE 201.3 DEGREES
PERIGEE GMT 5 40 00
DENSITY (GM/CM³)
ALTITUDE (KM)

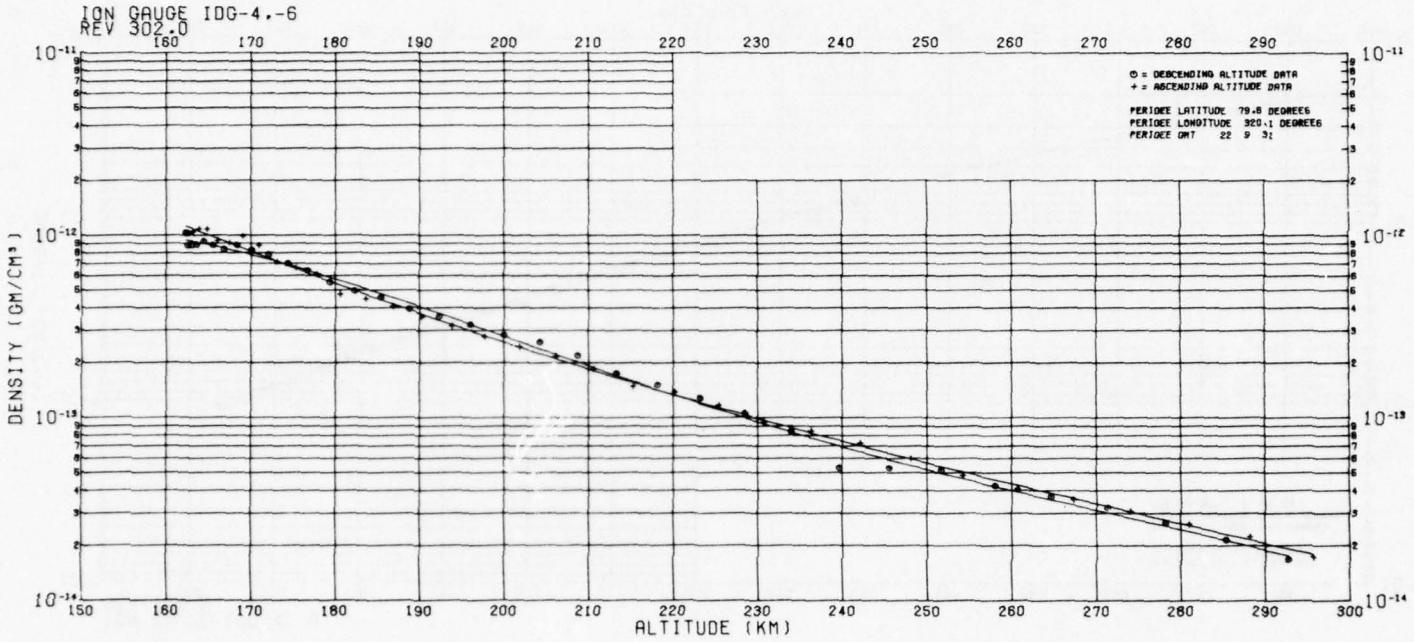

ION GAUGE IDG-4,-6
REV 295.0
⊖ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 80.5 DEGREES
PERIGEE LONGITUDE 171.3 DEGREES
PERIGEE GMT 7 44 45
DENSITY (GM/CM³)
ALTITUDE (KM)

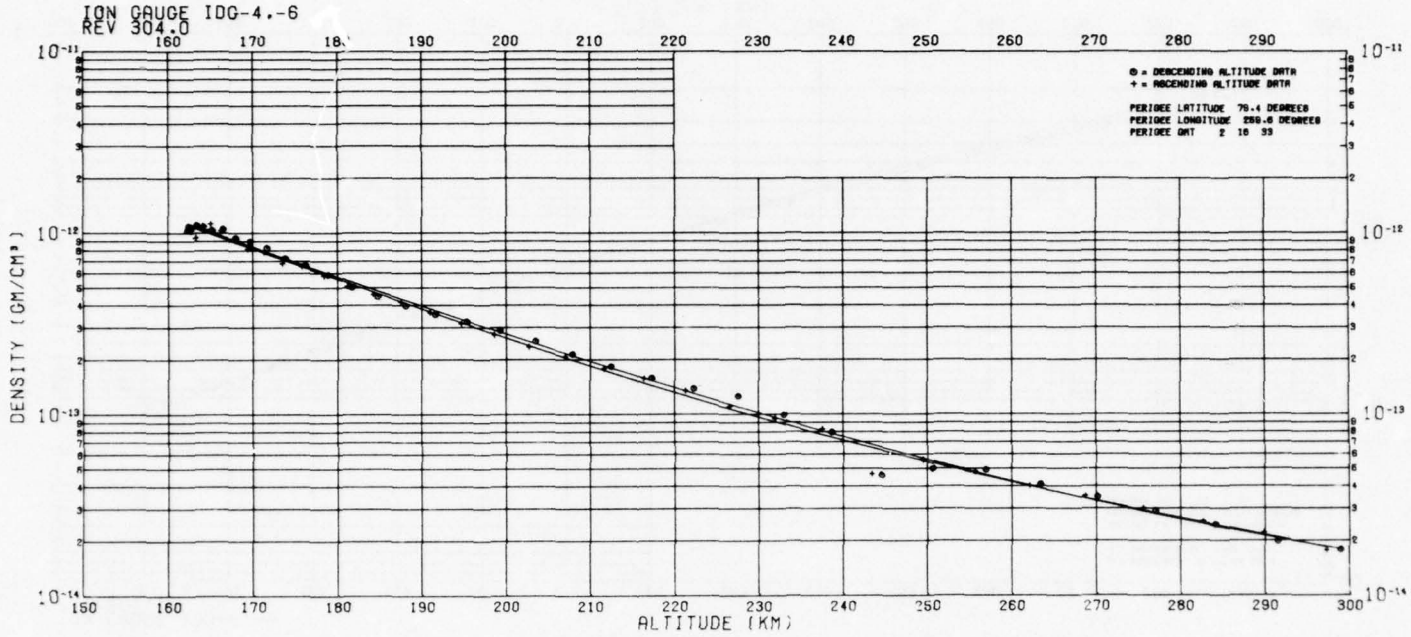

ION GAUGE IDG-4,-6
REV 297.0
⊙ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 80.2 DEGREES
PERIGEE LONGITUDE 111.0 DEGREES
PERIGEE GMT 11 61 47
DENSITY (GM/CM³)
ALTITUDE (KM)

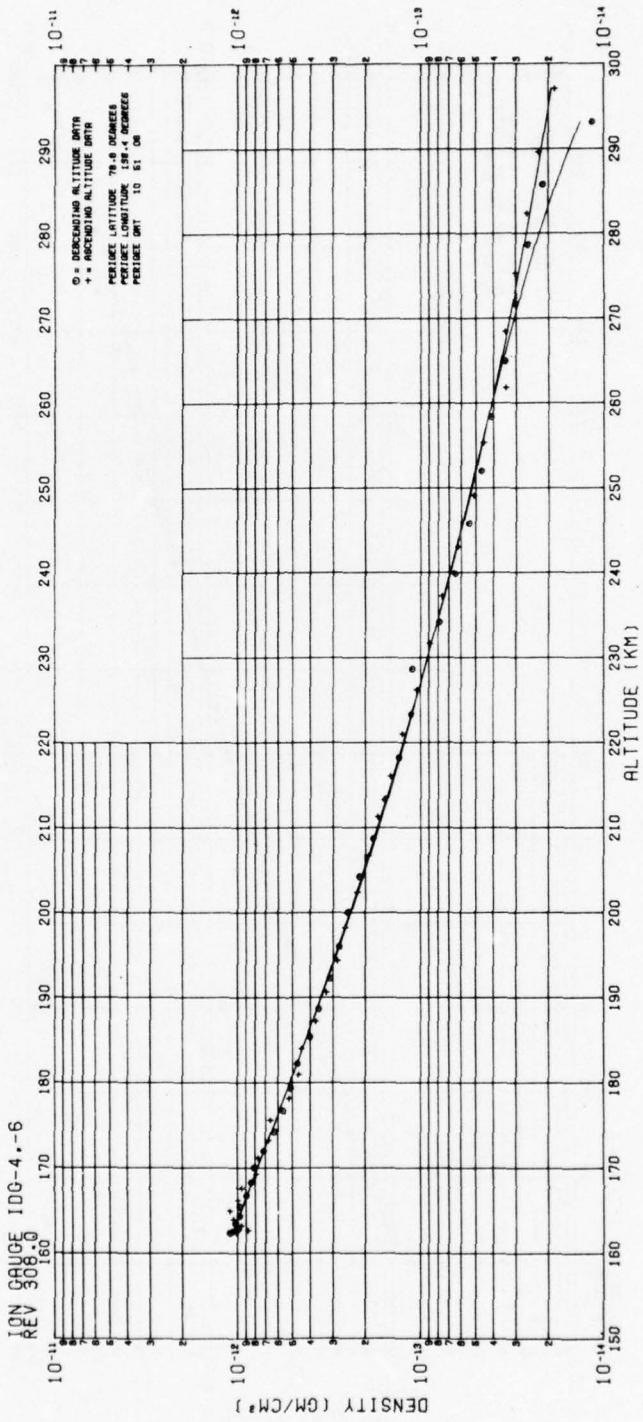

ION GAUGE IDG-4,-6
REV 298.0
DENSITY (GM/CM³)
ALTITUDE (KM)
⊙ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 80.2 DEGREES
PERIGEE LONGITUDE 80.7 DEGREES
PERIGEE GMT 13 66 36

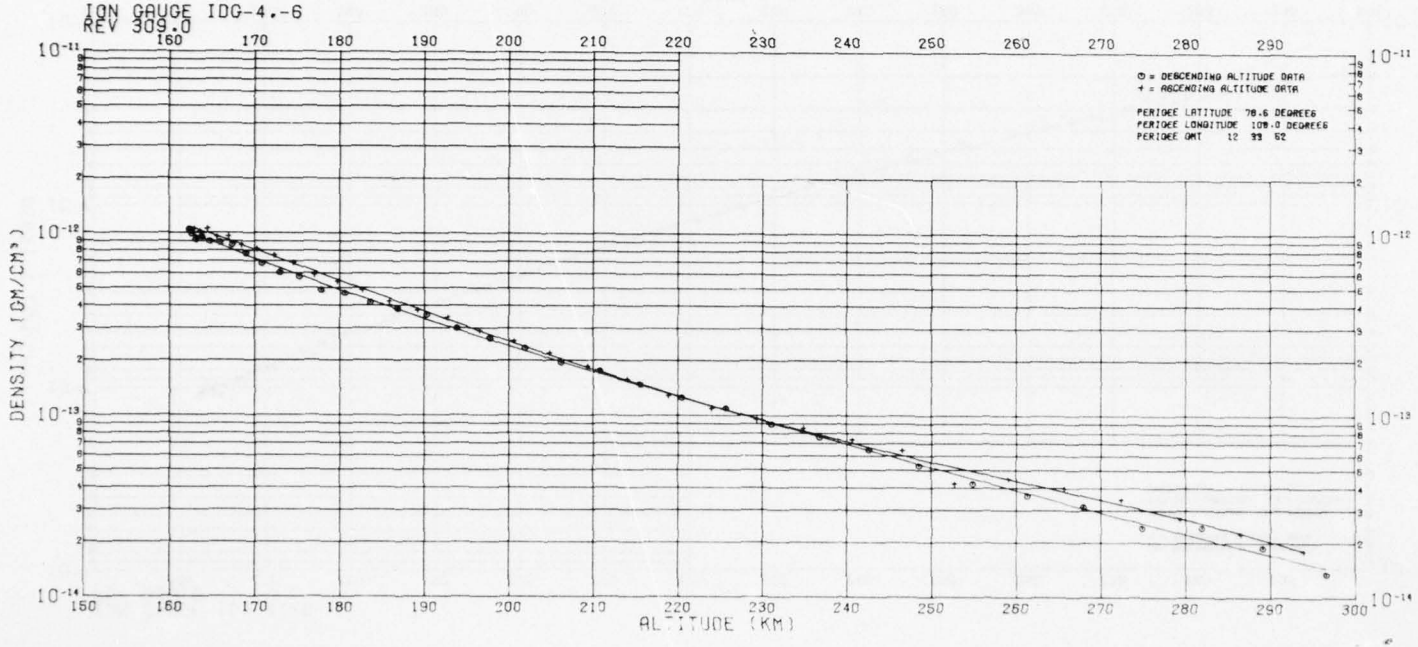

ION GAUGE IDG-4.-6
REV 300.0
⊖ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 79.8 DEGREES
PERIGEE LONGITUDE 20.6 DEGREES
PERIGEE GMT 18 : 27
DENSITY (GM/CM³)
ALTITUDE (KM)

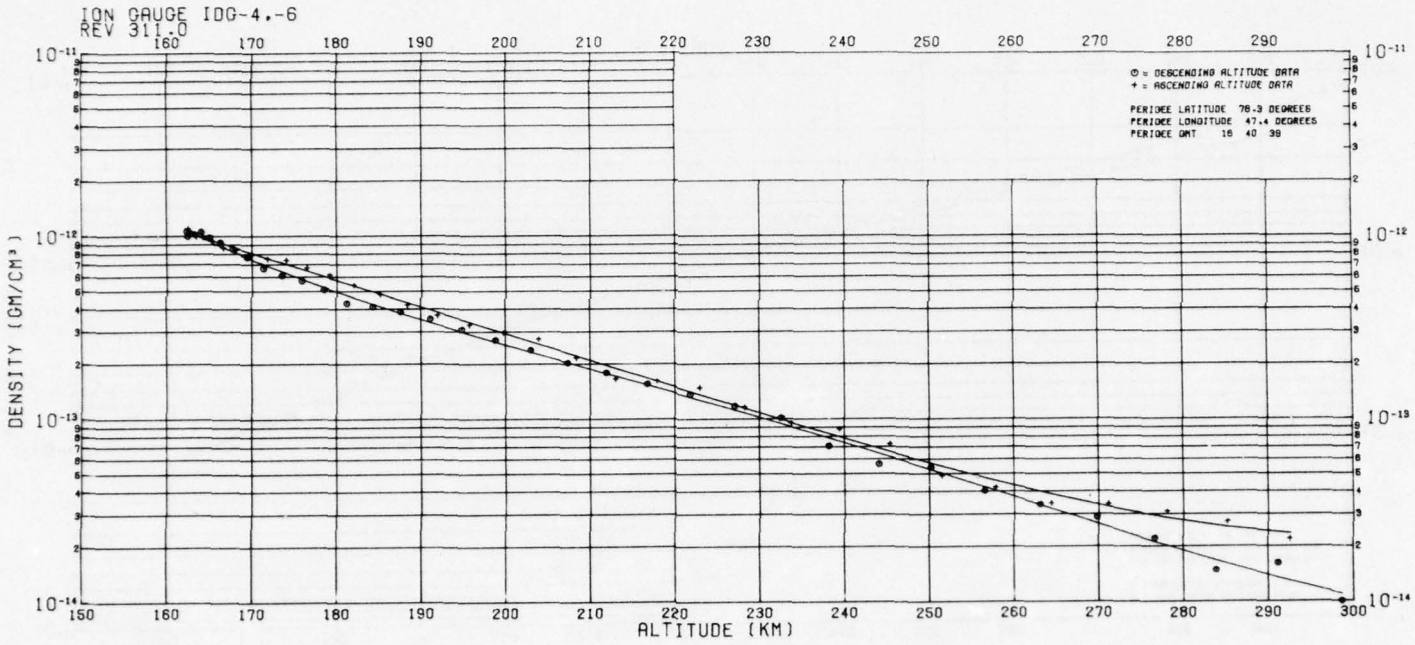

ION GAUGE IDG-4,-6
REV 301.0
⊙ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 78.7 DEGREES
PERIGEE LONGITUDE 360.1 DEGREES
PERIGEE GMT 20 27 42
DENSITY (GM/CM³)
ALTITUDE (KM)
10⁻¹¹
10⁻¹²
10⁻¹³
10⁻¹⁴
150
160
170
180
190
200
210
220
230
240
250
260
270
280
290
300

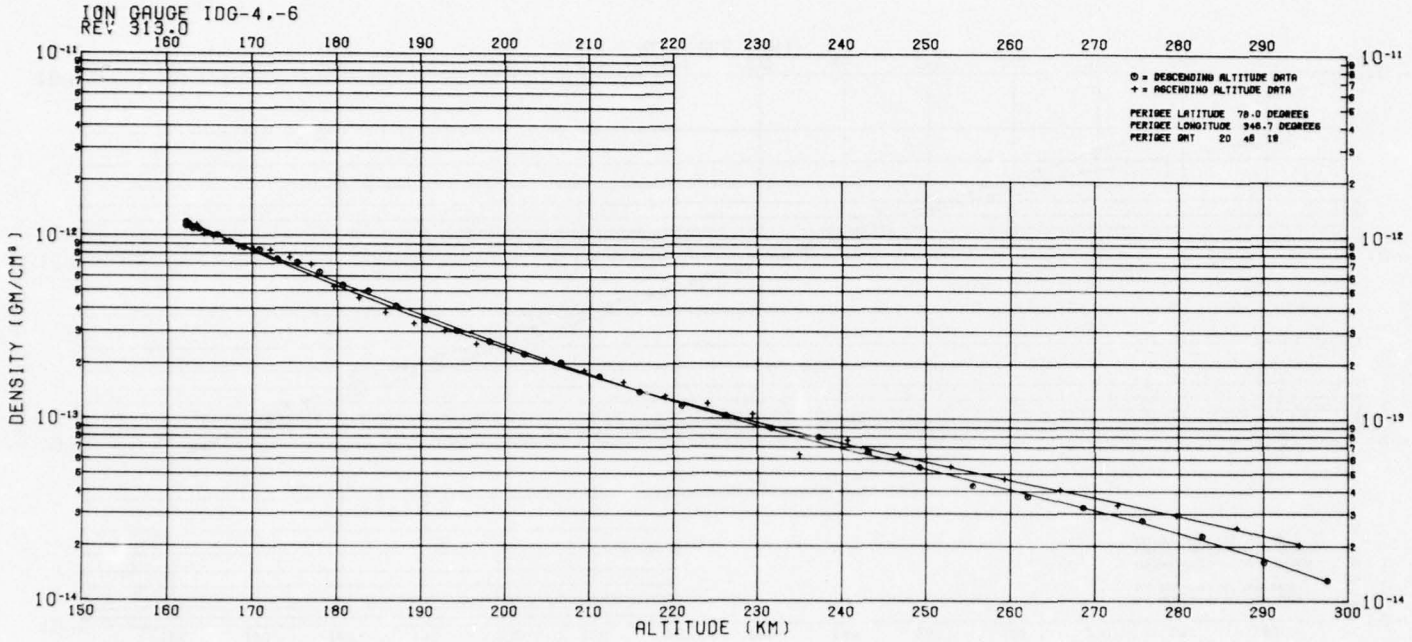

ION GAUGE IDG-4,-6
REV 302.0
© = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 79.8 DEGREES
PERIGEE LONGITUDE 329.1 DEGREES
PERIGEE GMT 22 9 3
DENSITY (GM/CM³)
ALTITUDE (KM)
150
160
170
180
190
200
210
220
230
240
250
260
270
280
290
300

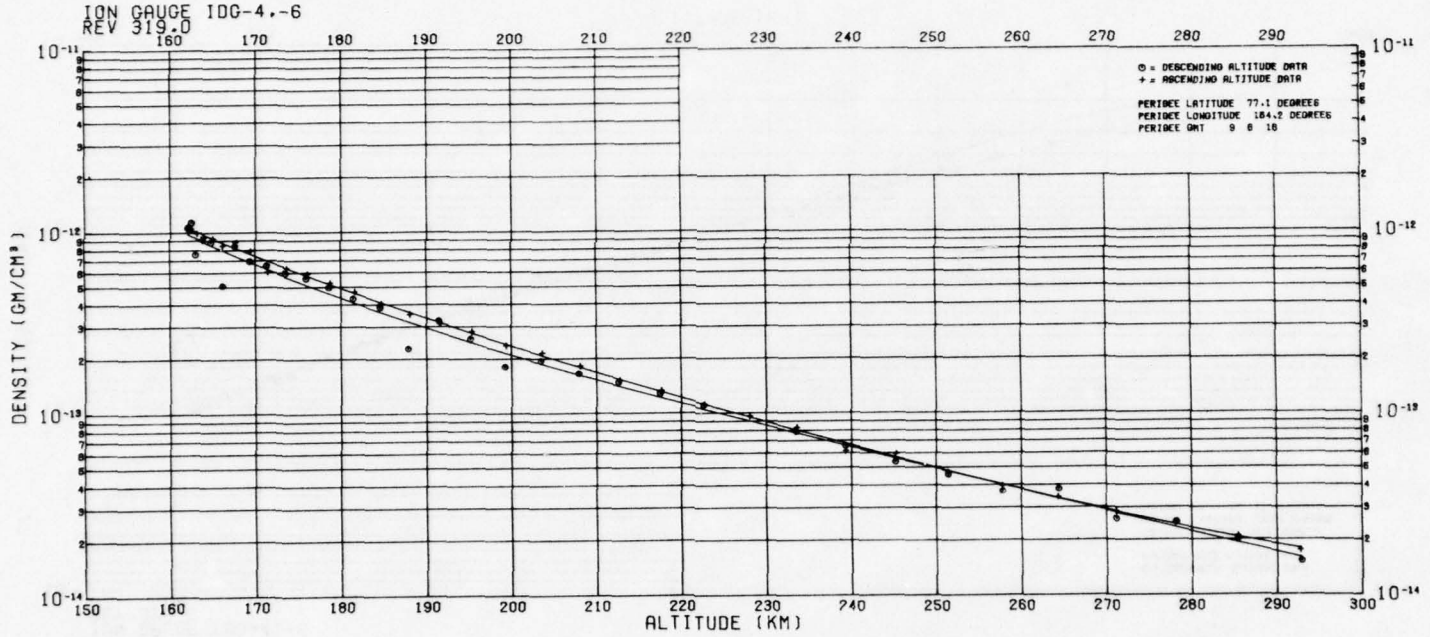

ION GAUGE IDG-4,-6
REV 304.0
⊖ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 79.4 DEGREES
PERIGEE LONGITUDE 258.6 DEGREES
PERIGEE GMT 2 16 33
DENSITY (GM/CM³)
ALTITUDE (KM)

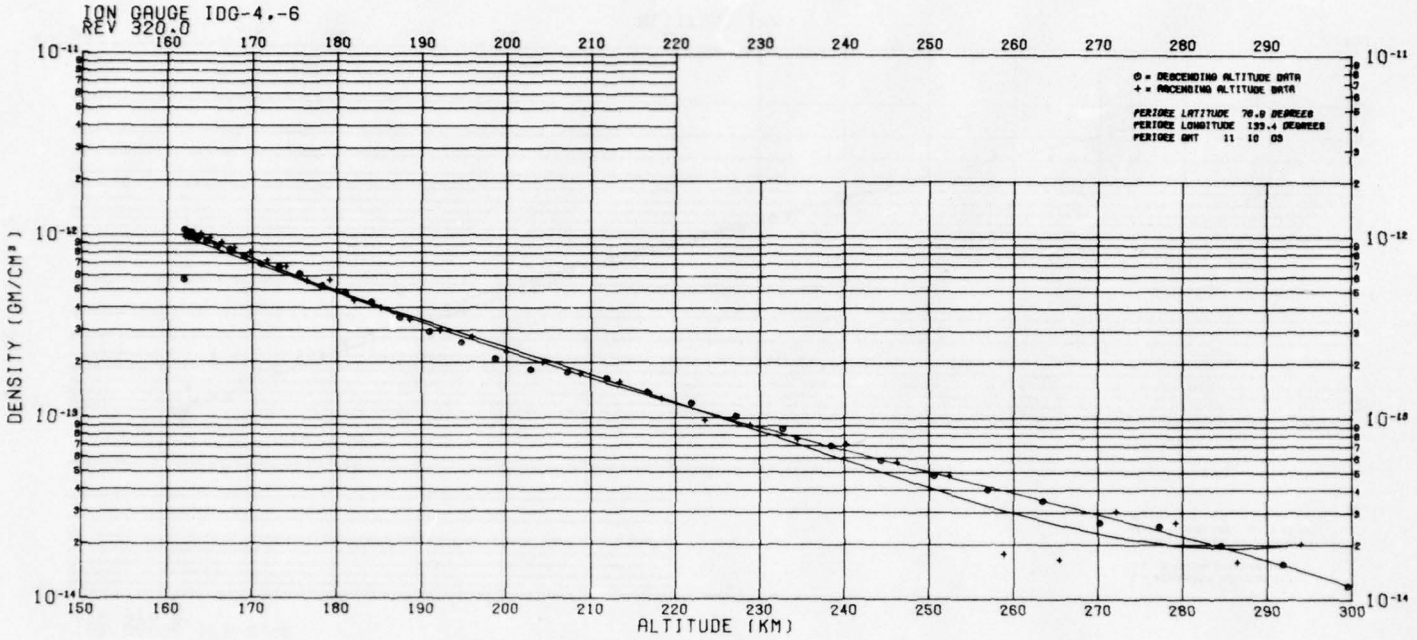

ION GAUGE IDG-4,-6
REV 308.0
⊙= DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE: 78.8 DEGREES
PERIGEE LONGITUDE: 159.4 DEGREES
PERIGEE GMT: 10 51 06
DENSITY (GM/CM³)
ALTITUDE (KM)

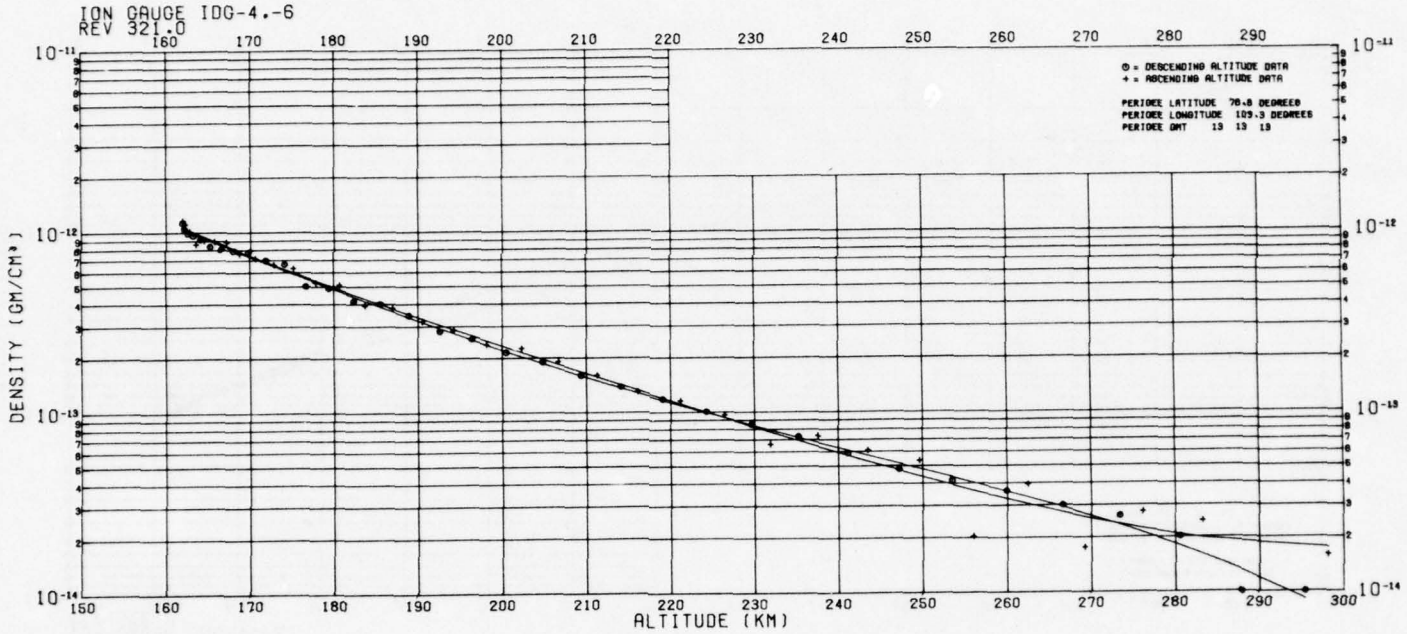

ION GAUGE IDG-4.-6
REV 309.0
DENSITY (GM/CM³)
ALTITUDE (KM)
⊙ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 78.6 DEGREES
PERIGEE LONGITUDE 109.0 DEGREES
PERIGEE GMT 12 33 52

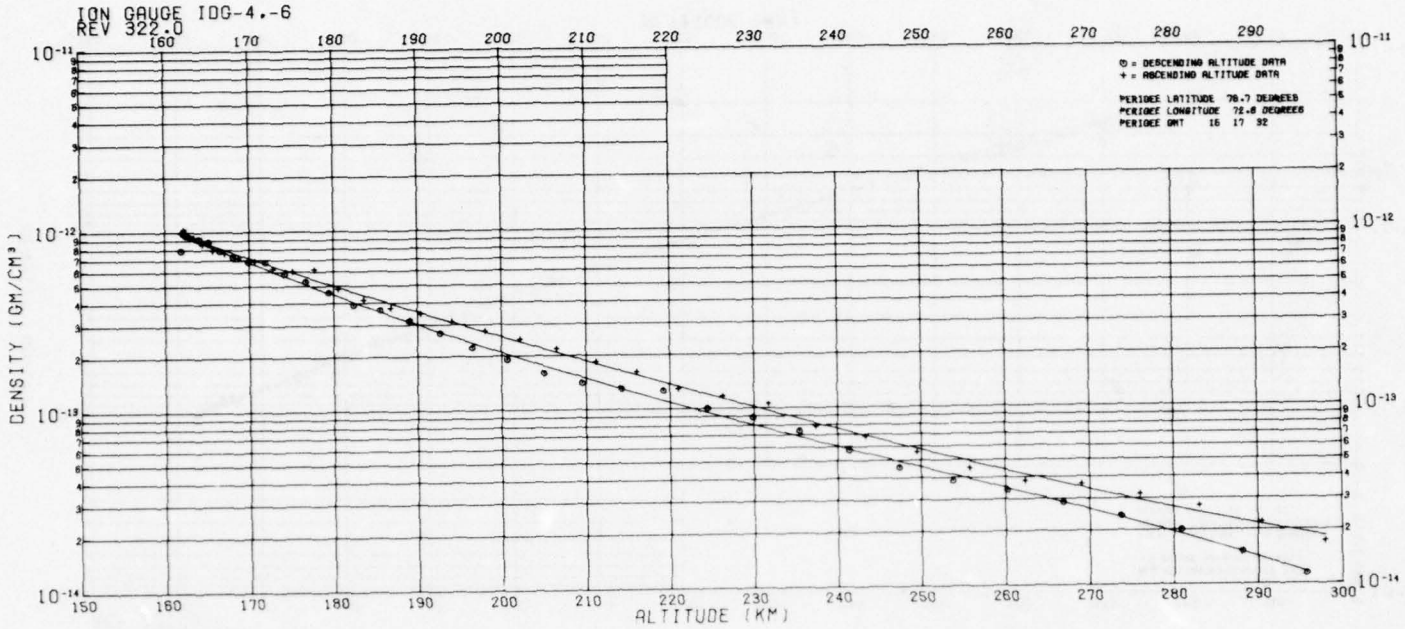

ION GAUGE IDG-4,-6
REV 311.0
© = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 78.3 DEGREES
PERIGEE LONGITUDE 47.4 DEGREES
PERIGEE GMT 16 40 39
DENSITY (GM/CM³)
ALTITUDE (KM)
150
160
170
180
190
200
210
220
230
240
250
260
270
280
290
300
10⁻¹¹
10⁻¹²
10⁻¹³
10⁻¹⁴

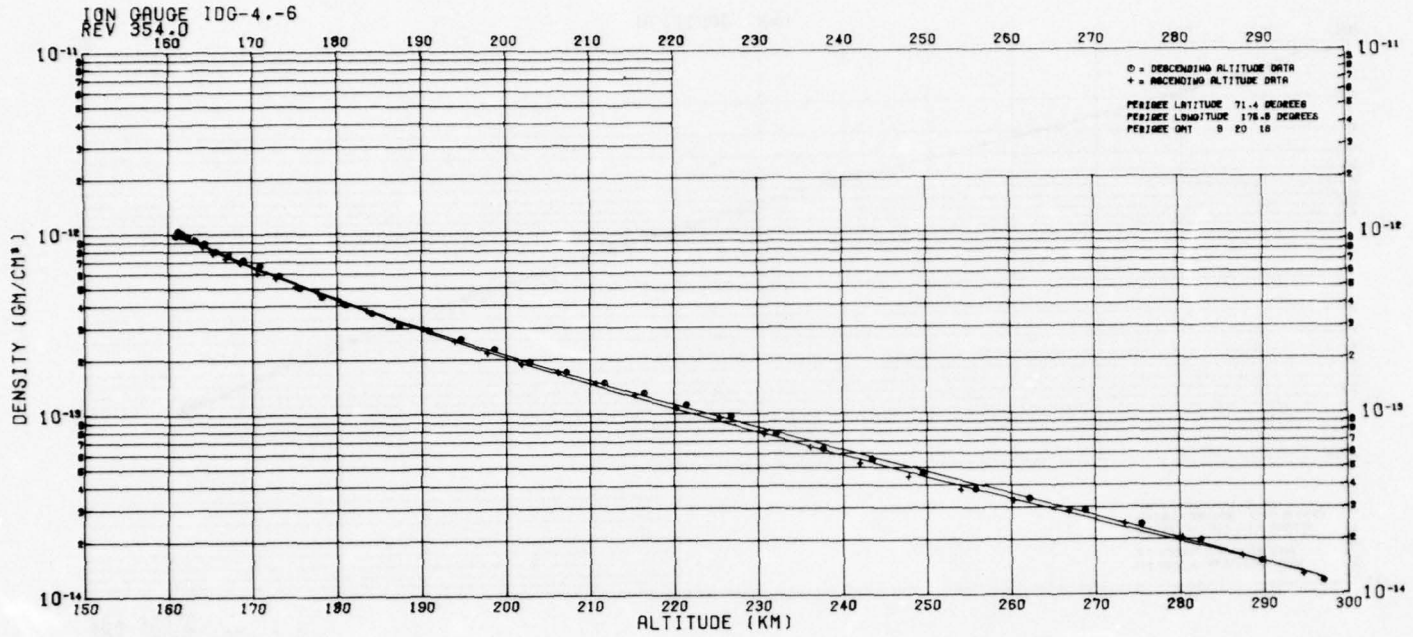

ION GAUGE IDG-4,-6
REV 313.0
⊙ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 78.0 DEGREES
PERIGEE LONGITUDE 348.7 DEGREES
PERIGEE GMT 20 48 18
DENSITY (GM/CM³)
ALTITUDE (KM)
10⁻¹¹
10⁻¹²
10⁻¹³
10⁻¹⁴
150
160
170
180
190
200
210
220
230
240
250
260
270
280
290
300

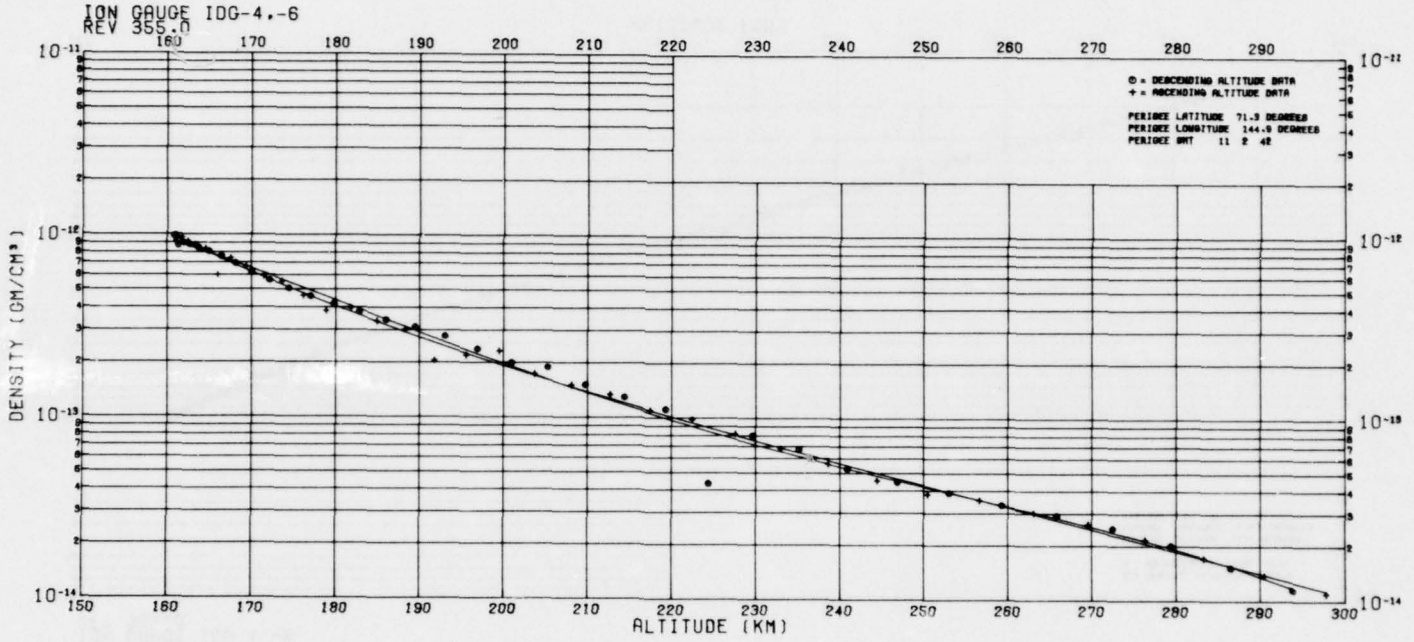

ION GAUGE IDG-4,-6
REV 319.0
⊙ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 77.1 DEGREES
PERIGEE LONGITUDE 184.2 DEGREES
PERIGEE GMT 9 8 16
DENSITY (GM/CM³)
ALTITUDE (KM)

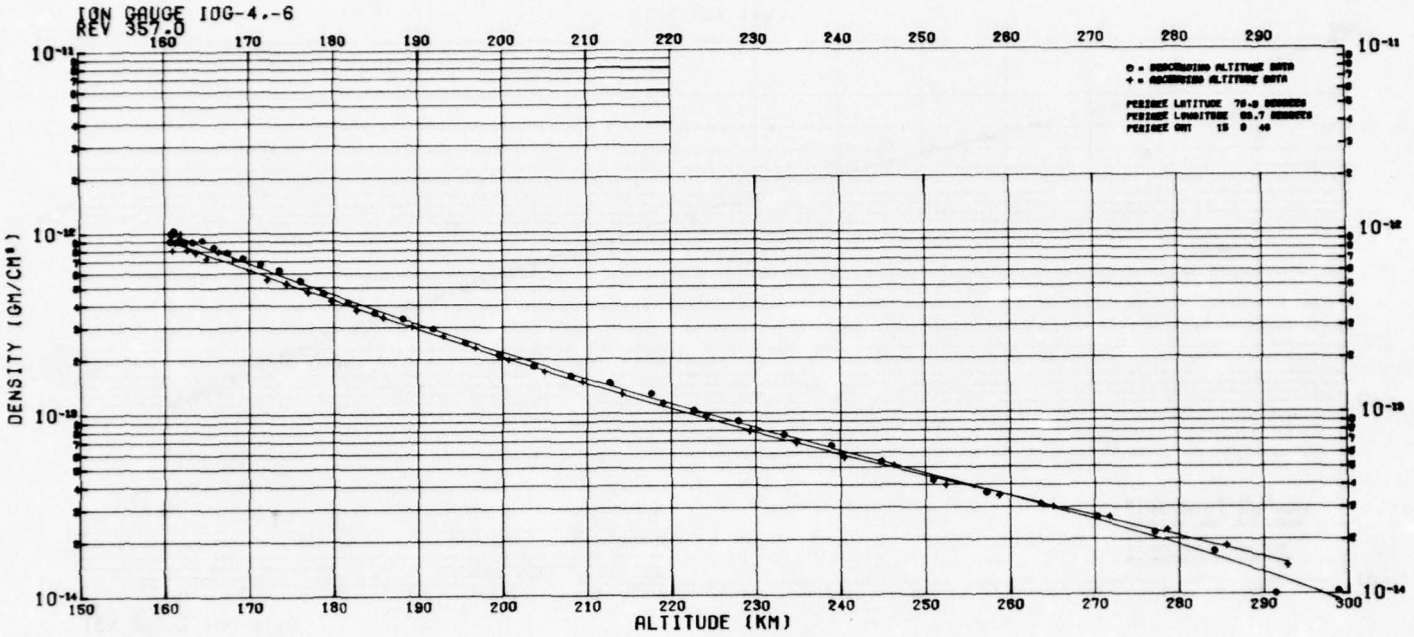

ION GAUGE IDG-4,-6
REV 320.0
Φ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 70.9 DEGREES
PERIGEE LONGITUDE 193.4 DEGREES
PERIGEE GMT 11 10 09
DENSITY (GM/CM³)
ALTITUDE (KM)
10⁻¹¹
10⁻¹²
10⁻¹³
10⁻¹⁴
150
160
170
180
190
200
210
220
230
240
250
260
270
280
290
300

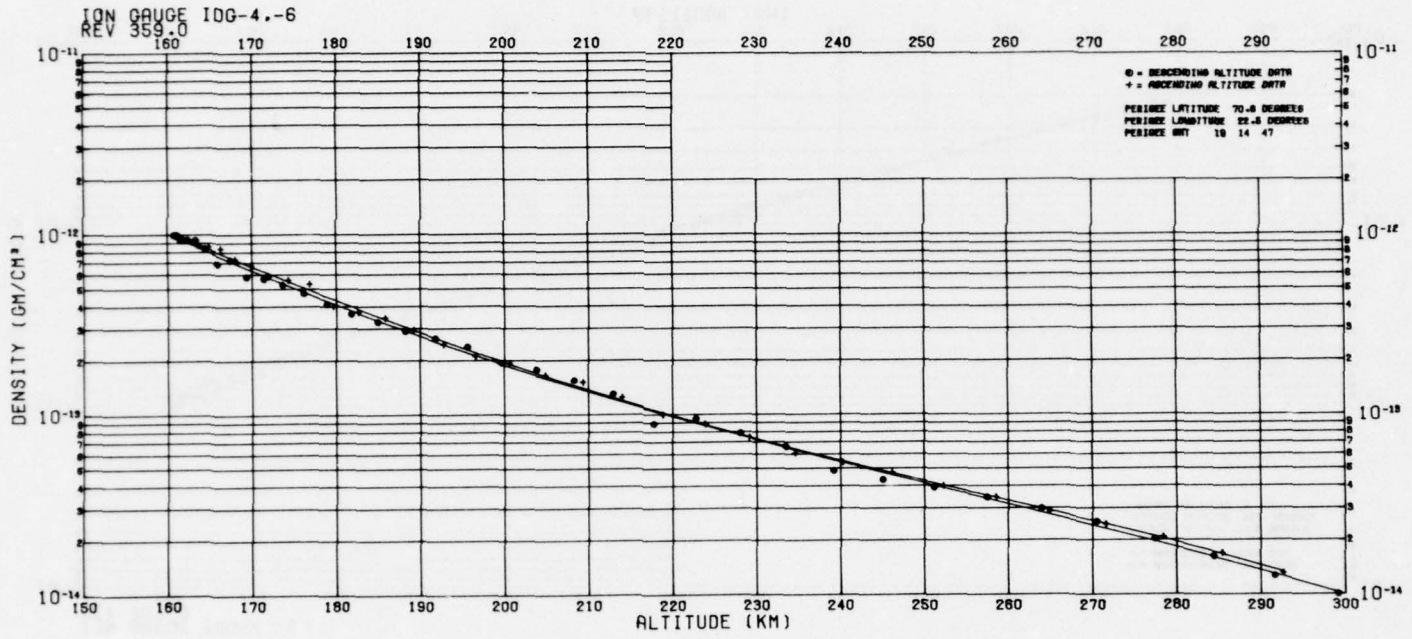

ION GAUGE IDG-4.-6
REV 321.0
⊙ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 76.8 DEGREES
PERIGEE LONGITUDE 109.3 DEGREES
PERIGEE GMT 13 13 13
DENSITY (GM/CM³)
ALTITUDE (KM)
10⁻¹¹
10⁻¹²
10⁻¹³
10⁻¹⁴
150
160
170
180
190
200
210
220
230
240
250
260
270
280
290
300

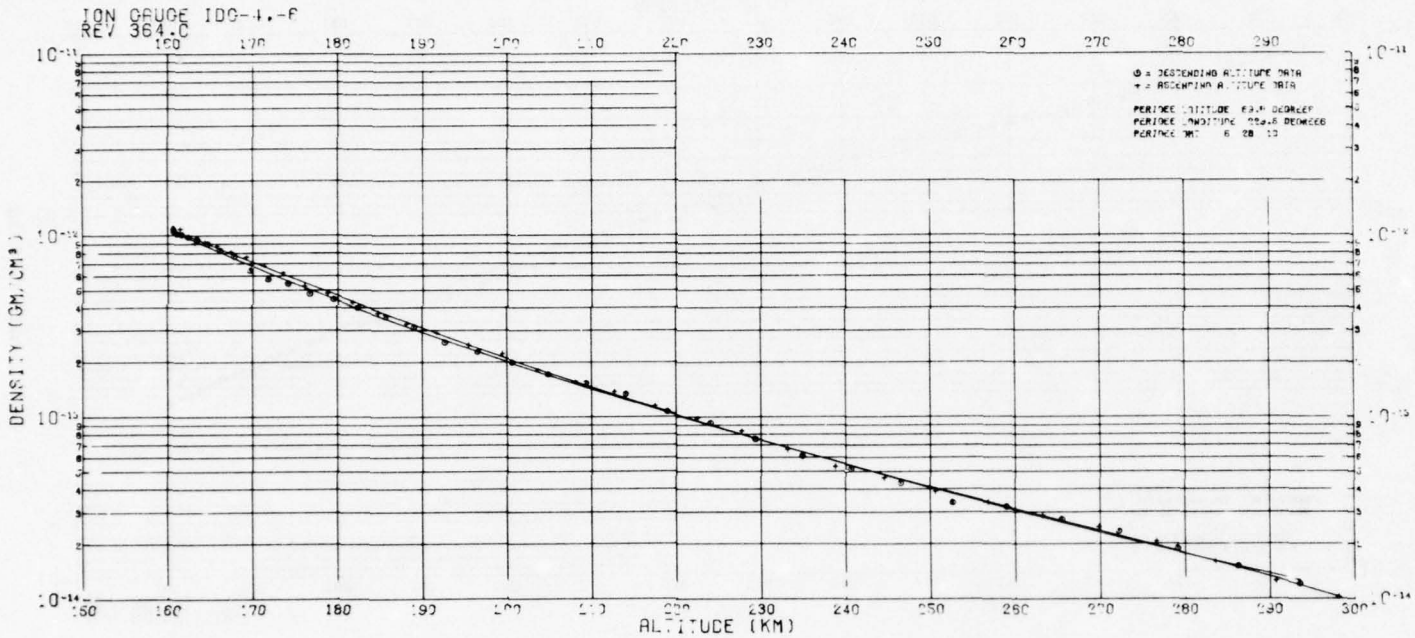

ION GAUGE IDG-4,-6
REV 322.0
DENSITY (GM/CM³)
ALTITUDE (KM)
⊙ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 70.7 DEGREES
PERIGEE LONGITUDE 72.8 DEGREES
PERIGEE GMT 16 17 32

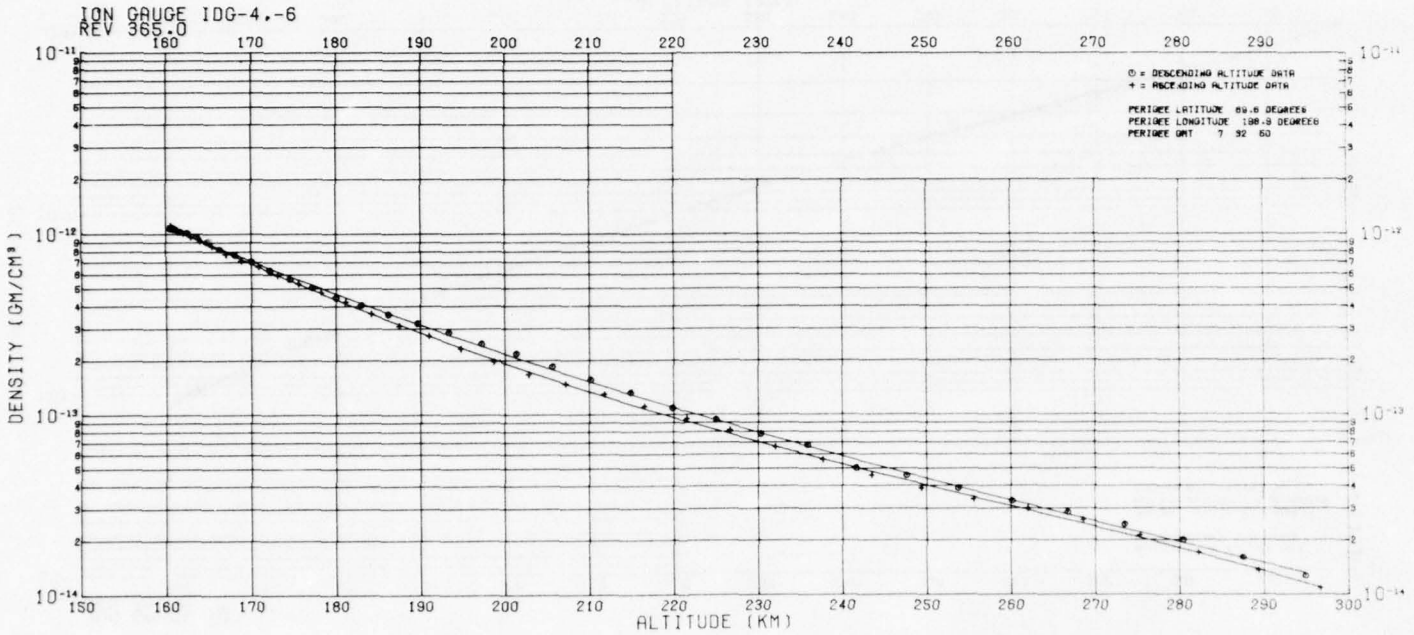

ION GAUGE IDG-4,-6
REV 354.0
© = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 71.4 DEGREES
PERIGEE LONGITUDE 176.8 DEGREES
PERIGEE GMT 8 20 18
DENSITY (GM/CM³)
ALTITUDE (KM)

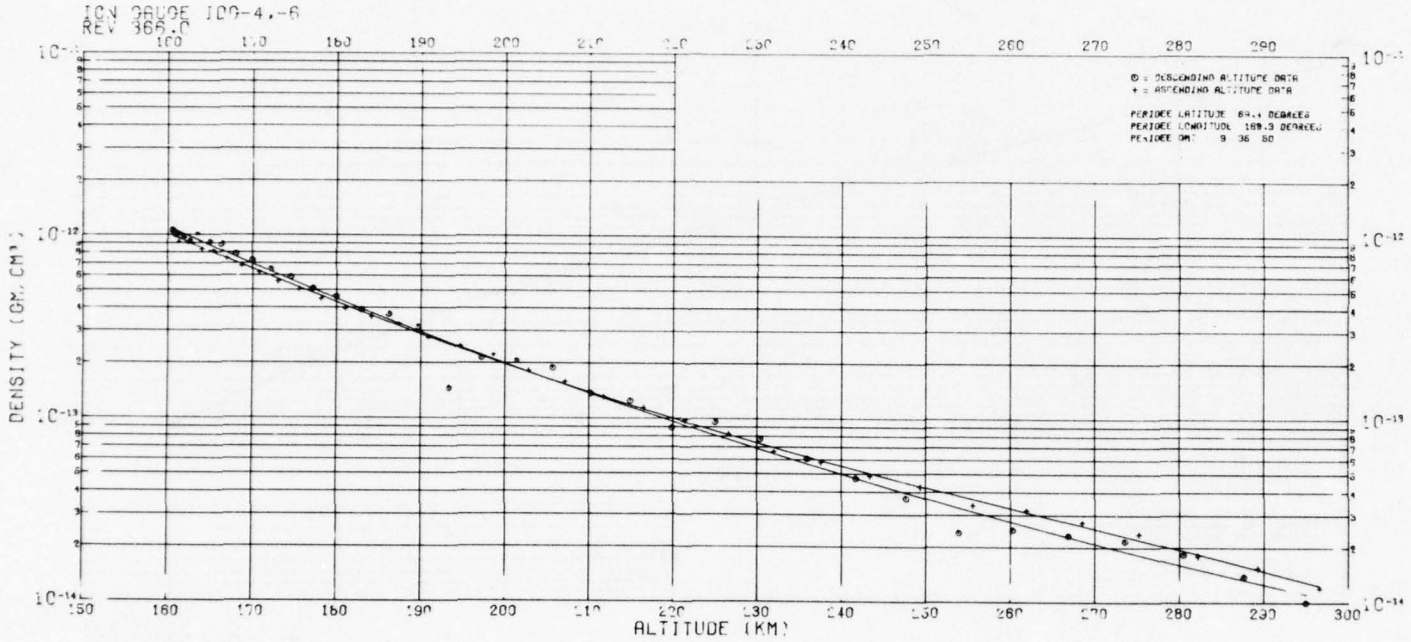

ION GAUGE IDG-4,-6
REV 355.0
DENSITY (GM/CM³)
ALTITUDE (KM)
○ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 71.9 DEGREES
PERIGEE LONGITUDE 144.9 DEGREES
PERIGEE GMT 11 2 42

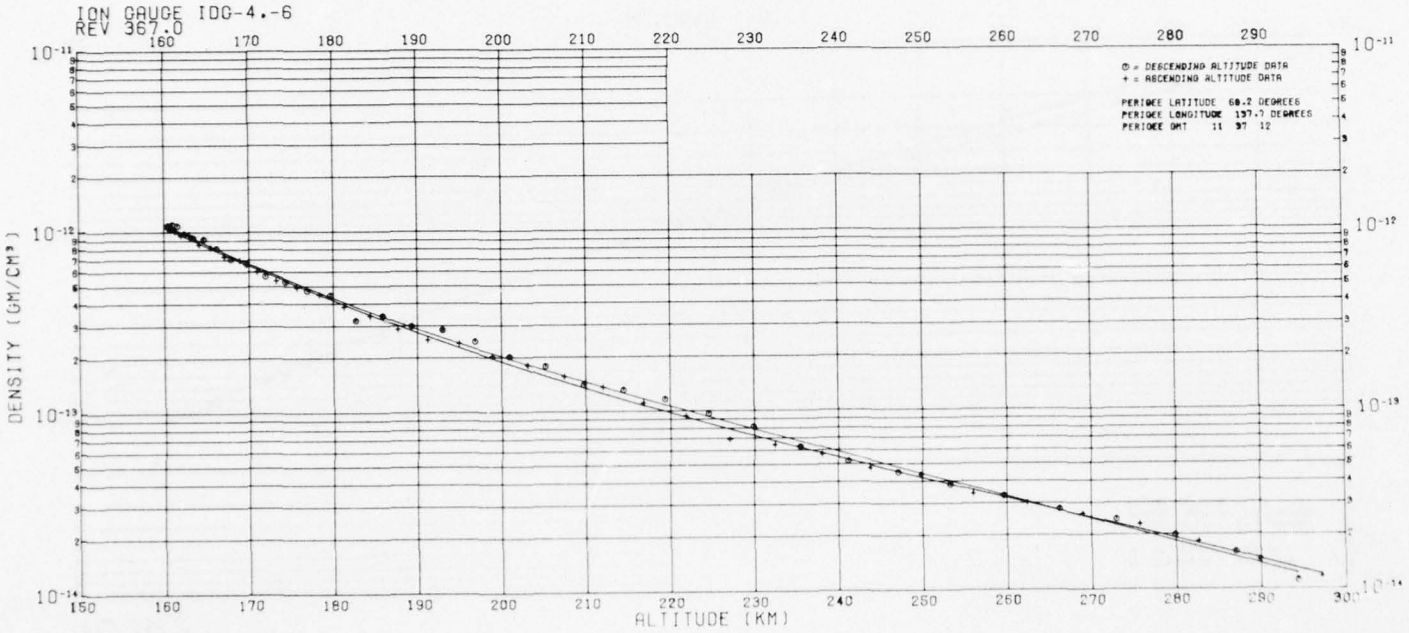

ION GAUGE IOG-4.-6
REV 357.0
DENSITY (GM/CM³)
ALTITUDE (KM)
150
160
170
180
190
200
210
220
230
240
250
260
270
280
290
300

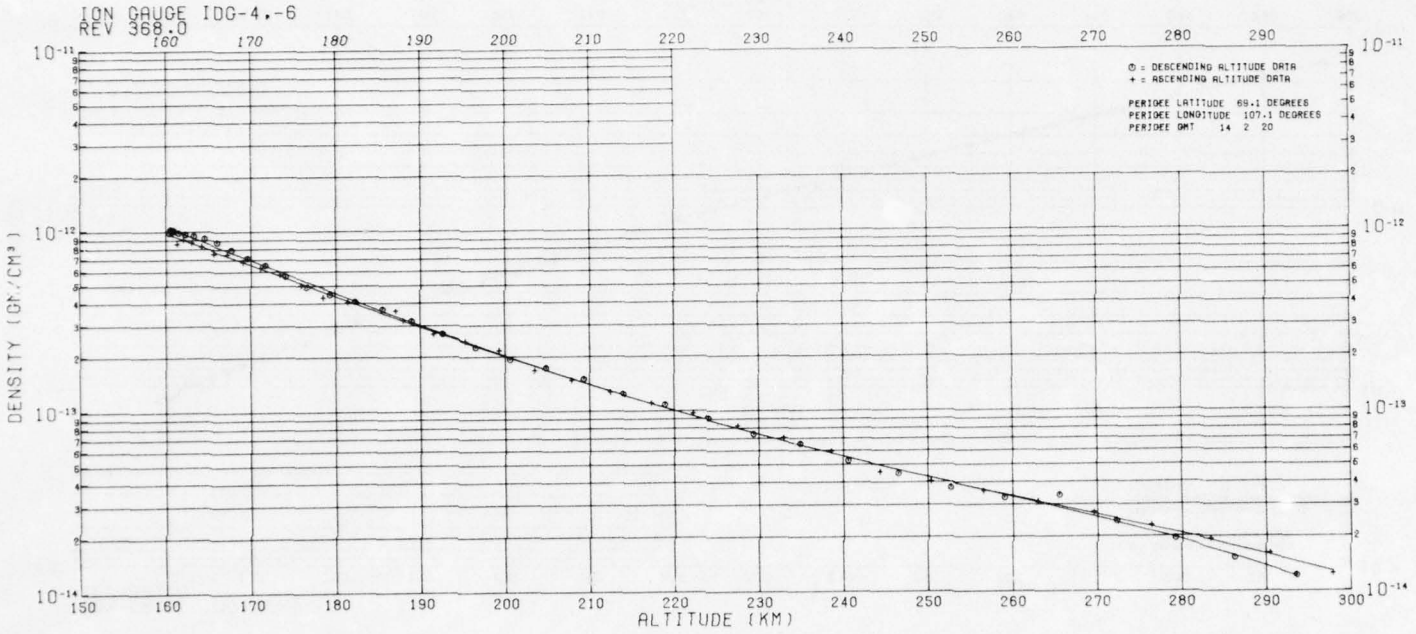

ION GAUGE IDG-4.-6
REV 359.0
⊕ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 70.8 DEGREES
PERIGEE LONGITUDE 22.5 DEGREES
PERIGEE GMT 18 14 47
DENSITY (GM/CM³)
ALTITUDE (KM)

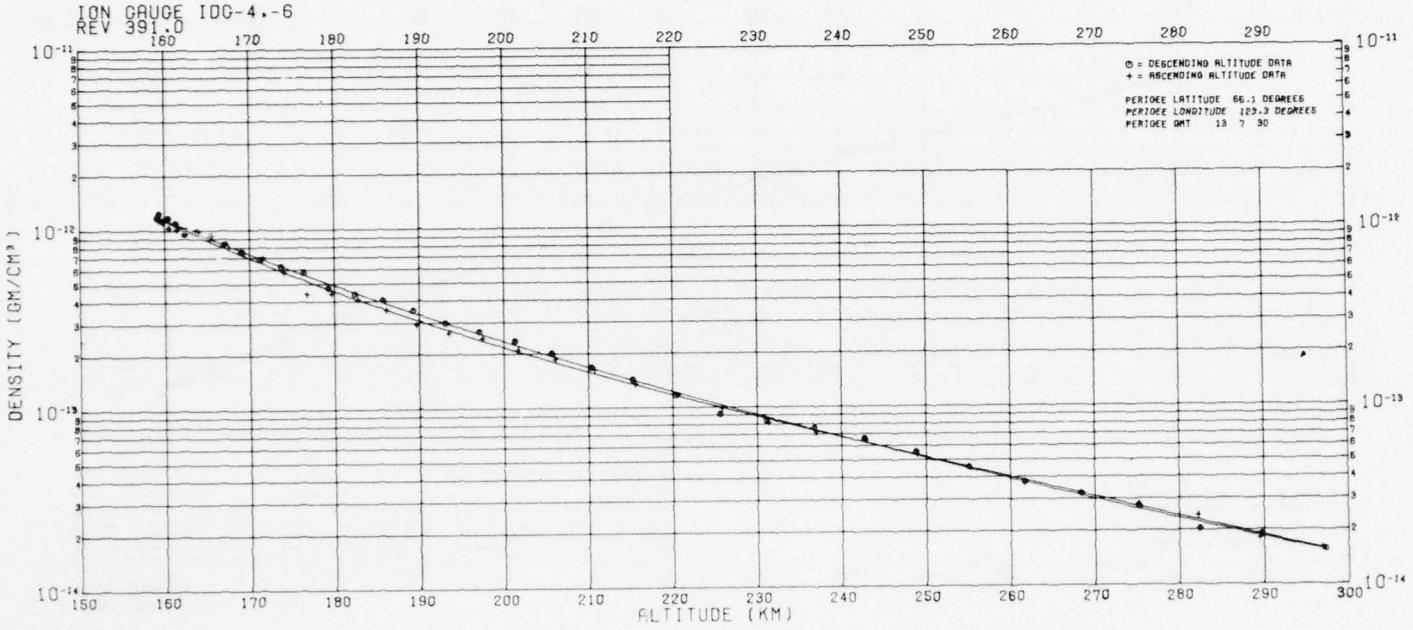

ION GAUGE IDG-4,-6
REV 364.0
DENSITY (GM/CM³)
ALTITUDE (KM)
150
160
170
180
190
200
210
220
230
240
250
260
270
280
290
300

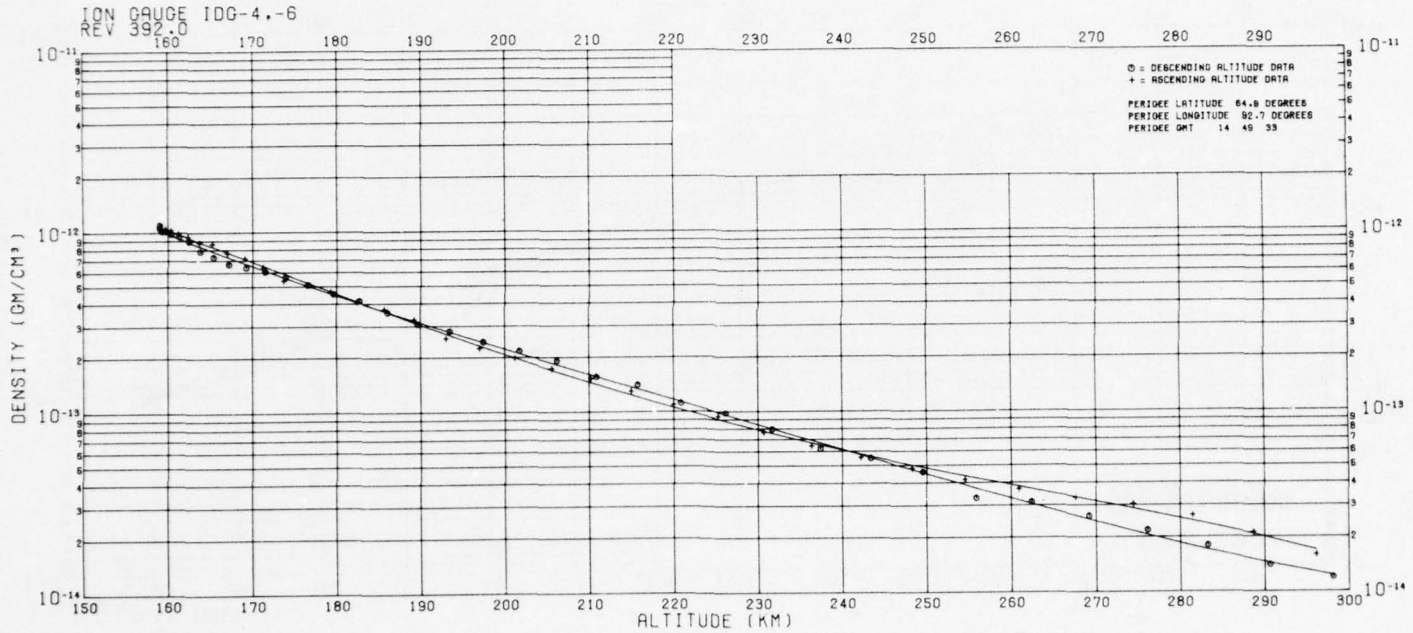

ION GAUGE IDG-4,-6
REV 365.0
DENSITY (GM/CM³)
ALTITUDE (KM)
⊖ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 69.6 DEGREES
PERIGEE LONGITUDE 188.9 DEGREES
PERIGEE GMT 7 32 50

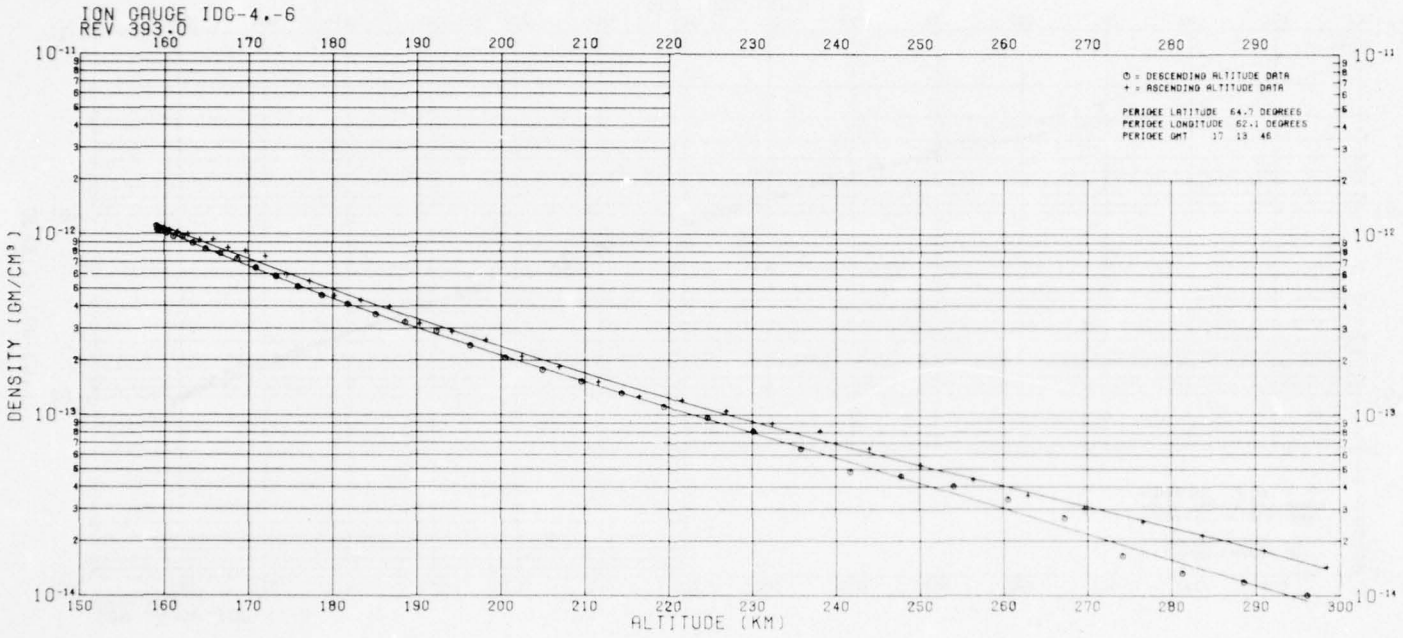

ION GAUGE IDG-4,-6
REV 366.0
DENSITY (GM/CM³)
ALTITUDE (KM)
⊙ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 69.4 DEGREES
PERIGEE LONGITUDE 169.3 DEGREES
PERIGEE GMT 9 36 60

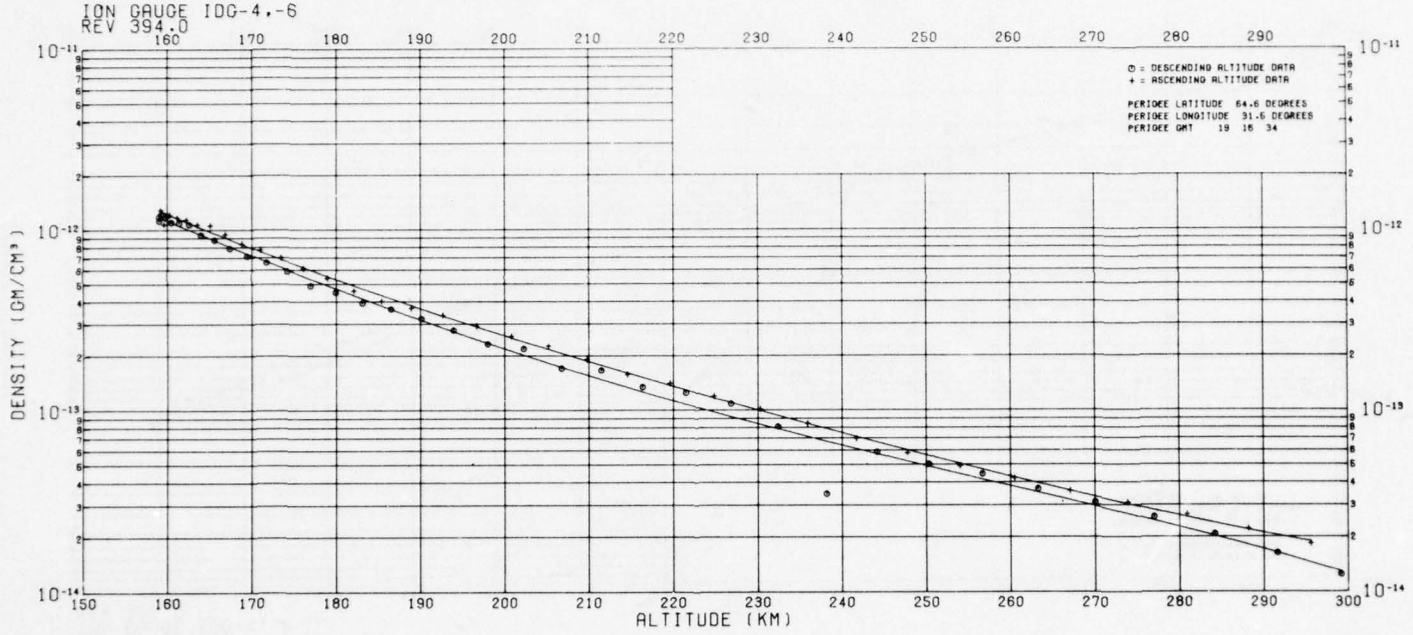

ION GAUGE IDG-4.-6
REV 367.0
⊙ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 68.2 DEGREES
PERIGEE LONGITUDE 137.7 DEGREES
PERIGEE GMT 11 37 12
DENSITY (GM/CM³)
ALTITUDE (KM)

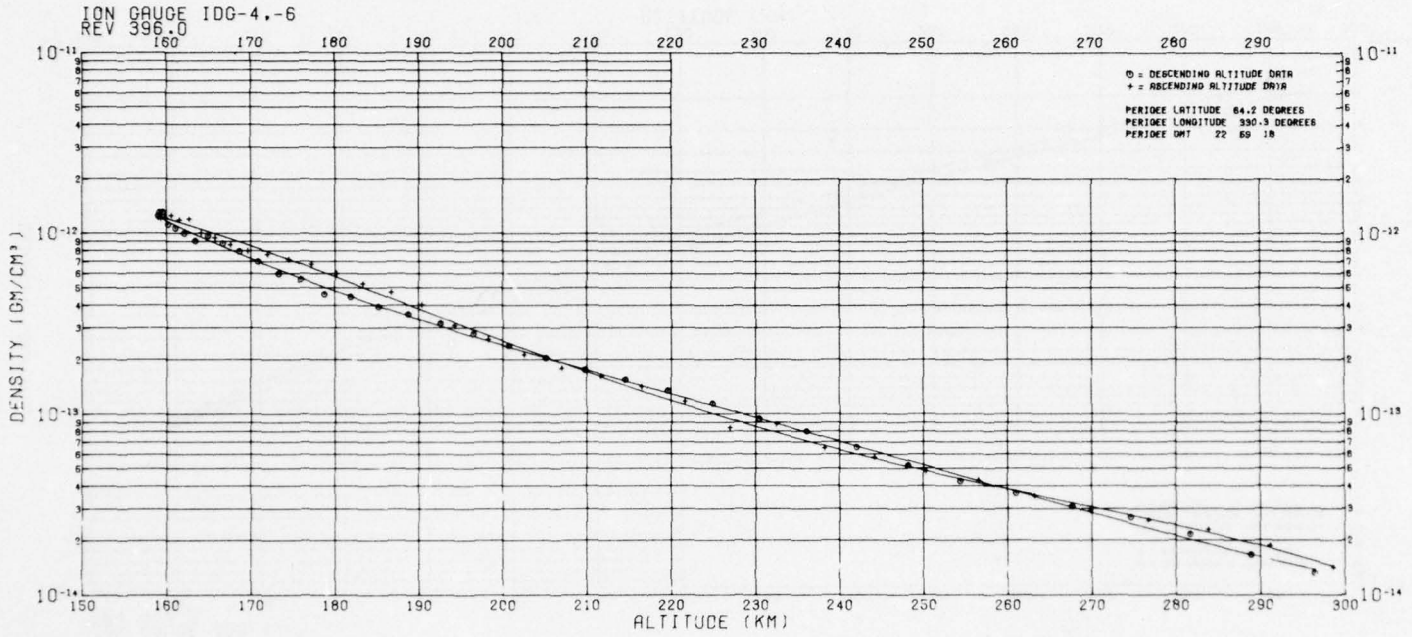

ION GAUGE IDG-4,-6
REV 368.0
⊙ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 69.1 DEGREES
PERIGEE LONGITUDE 107.1 DEGREES
PERIGEE GMT 14 2 20
DENSITY (GM./CM³)
ALTITUDE (KM)

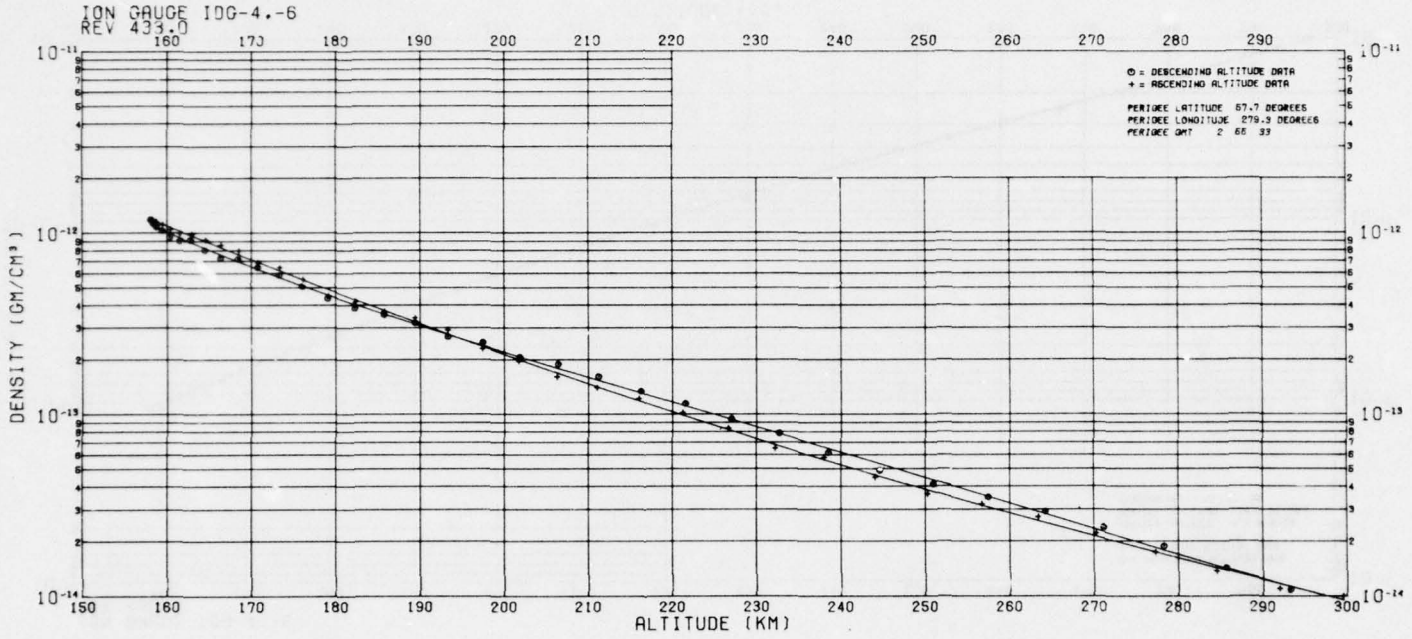

ION GAUGE IDG-4.-6
REV 391.0
⊙ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 66.1 DEGREES
PERIGEE LONGITUDE 123.3 DEGREES
PERIGEE GMT 13 7 30
DENSITY (GM/CM³)
ALTITUDE (KM)

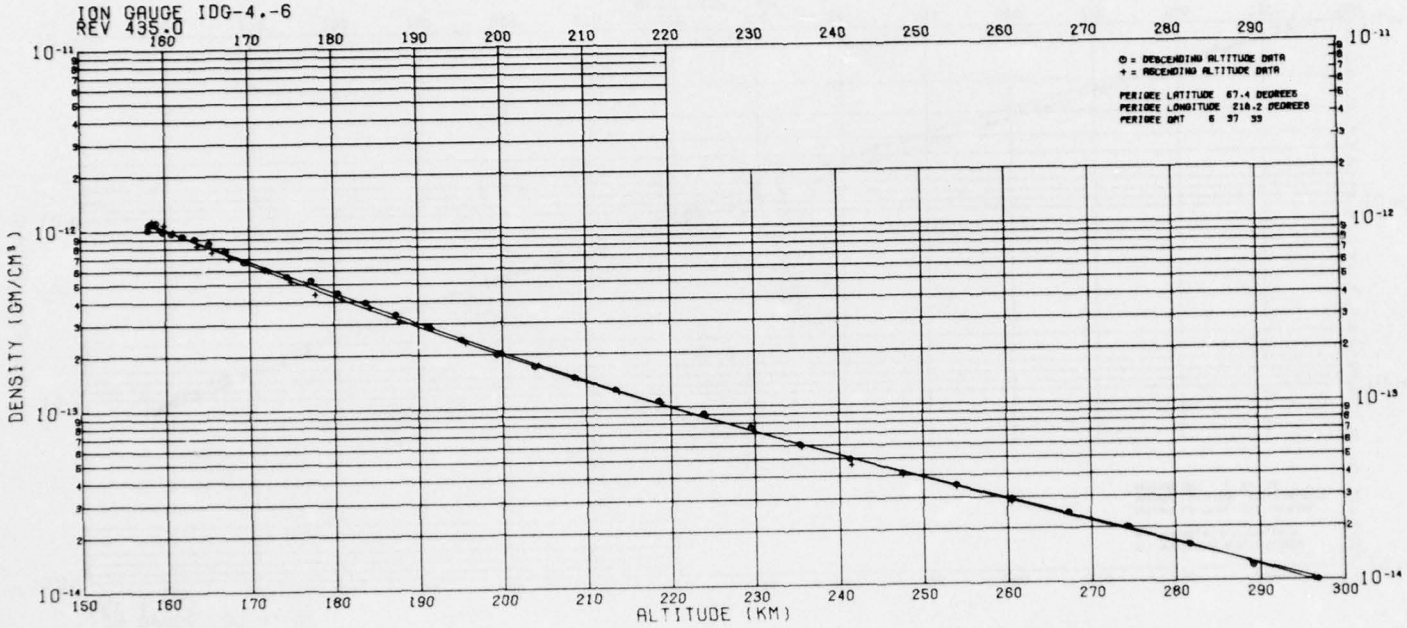

ION GAUGE IDG-4,-6
REV 392.0
Ø = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 64.9 DEGREES
PERIGEE LONGITUDE 92.7 DEGREES
PERIGEE GMT 14 49 33
DENSITY (GM/CM³)
ALTITUDE (KM)

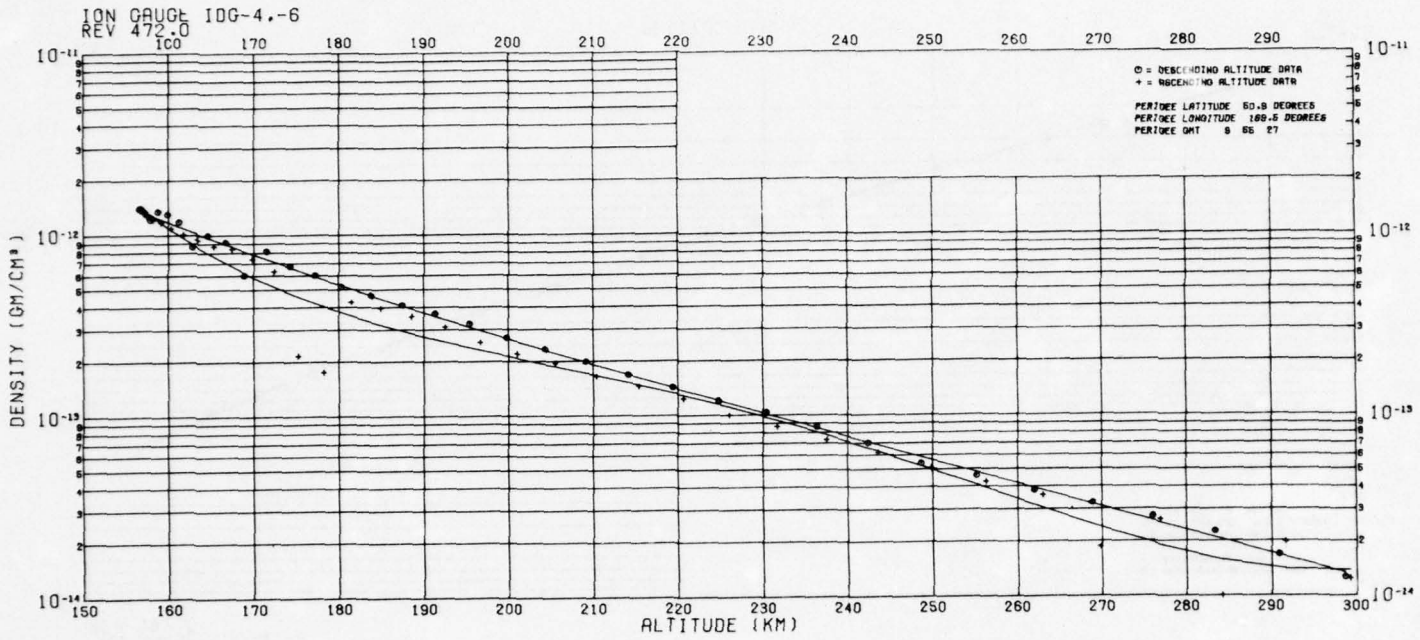

ION GAUGE IDG-4,-6
REV 393.0
⊙ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 64.7 DEGREES
PERIGEE LONGITUDE 62.1 DEGREES
PERIGEE GMT 17 13 46
DENSITY (GM/CM³)
ALTITUDE (KM)
150
160
170
180
190
200
210
220
230
240
250
260
270
280
290
300
10⁻¹¹
10⁻¹²
10⁻¹³
10⁻¹⁴

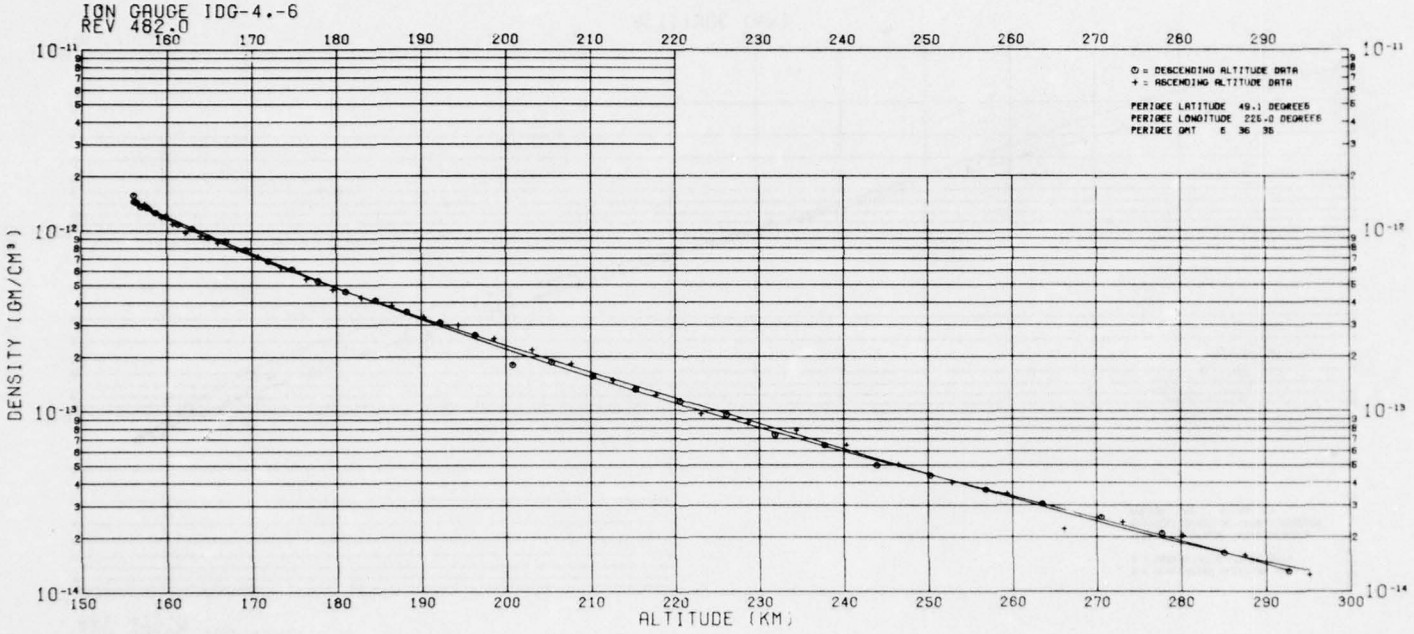

ION GAUGE IDG-4,-6
REV 394.0
⊙ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 64.6 DEGREES
PERIGEE LONGITUDE 31.5 DEGREES
PERIGEE GMT 19 16 34
DENSITY (GM/CM³)
ALTITUDE (KM)

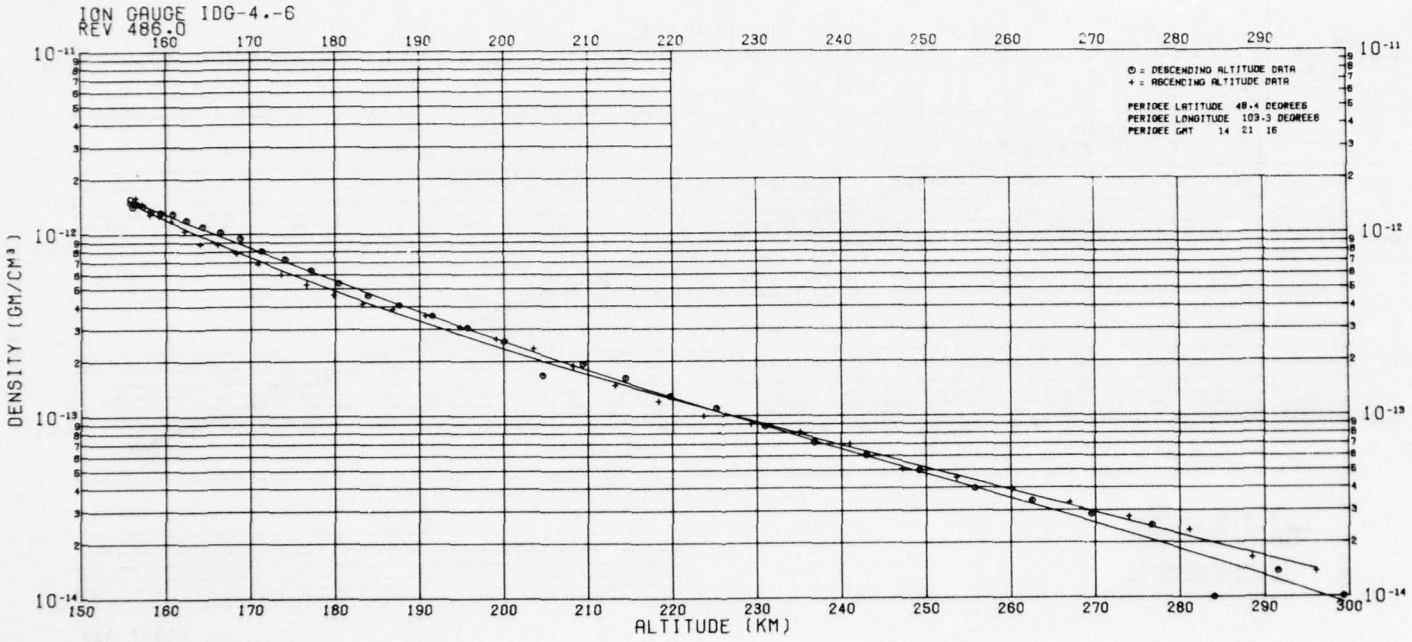

ION GAUGE IDG-4,-6
REV 396.0
⊖ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 64.2 DEGREES
PERIGEE LONGITUDE 330.3 DEGREES
PERIGEE GMT 22 59 18
DENSITY (GM/CM³)
ALTITUDE (KM)

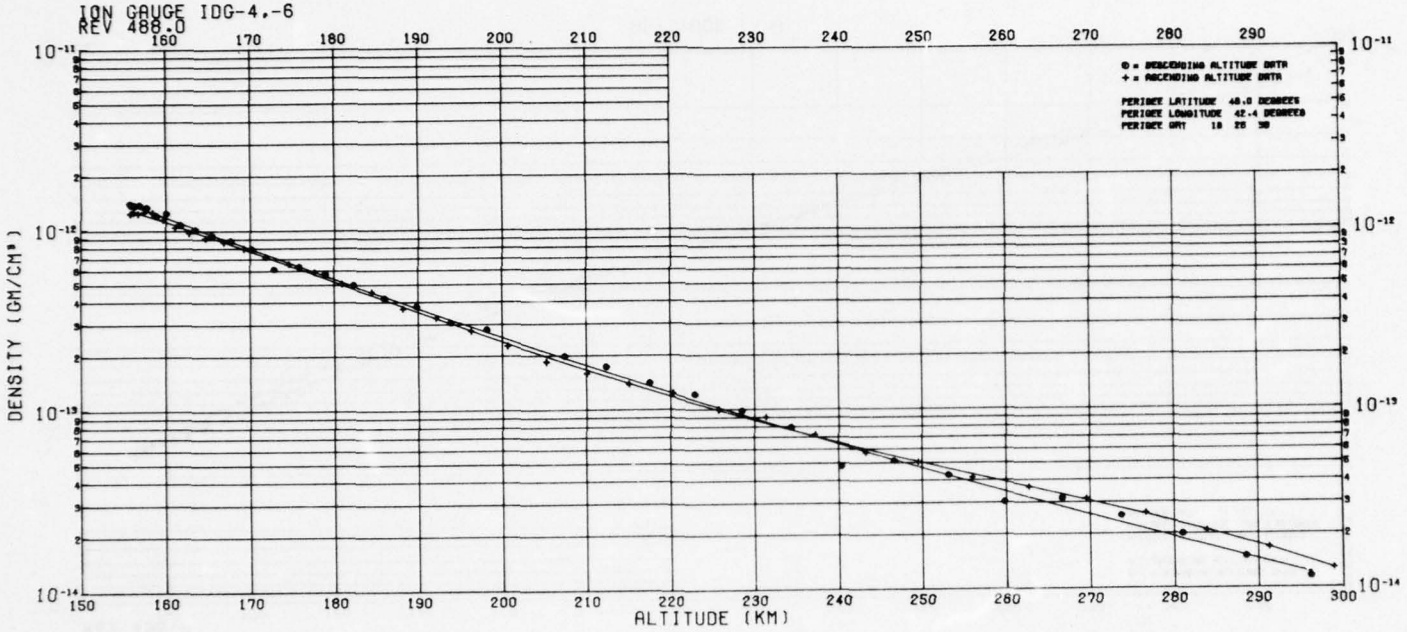

ION GAUGE IDG-4.-6
REV 433.0
⊙ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 67.7 DEGREES
PERIGEE LONGITUDE 279.3 DEGREES
PERIGEE GMT 2 65 33
DENSITY (GM/CM³)
ALTITUDE (KM)

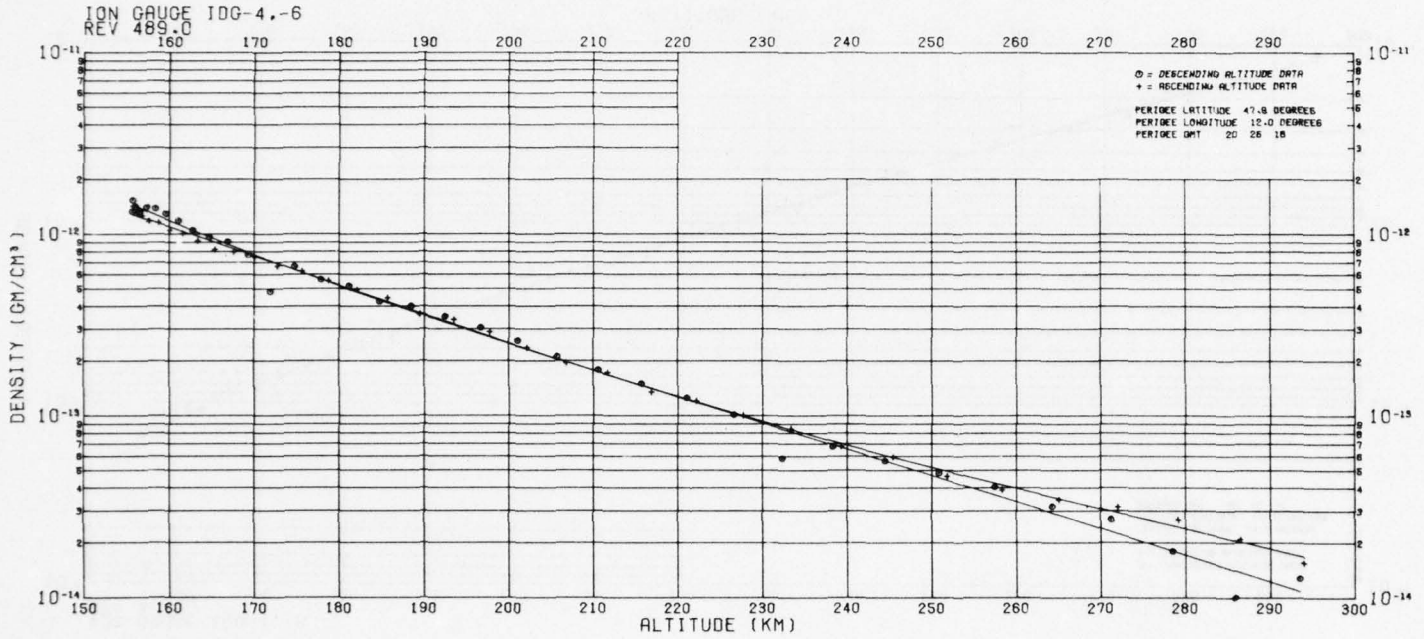

ION GAUGE IDG-4.-6
REV 435.0
DENSITY (GM/CM³)
ALTITUDE (KM)
⊙ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 67.4 DEGREES
PERIGEE LONGITUDE 218.2 DEGREES
PERIGEE GMT 6 37 33

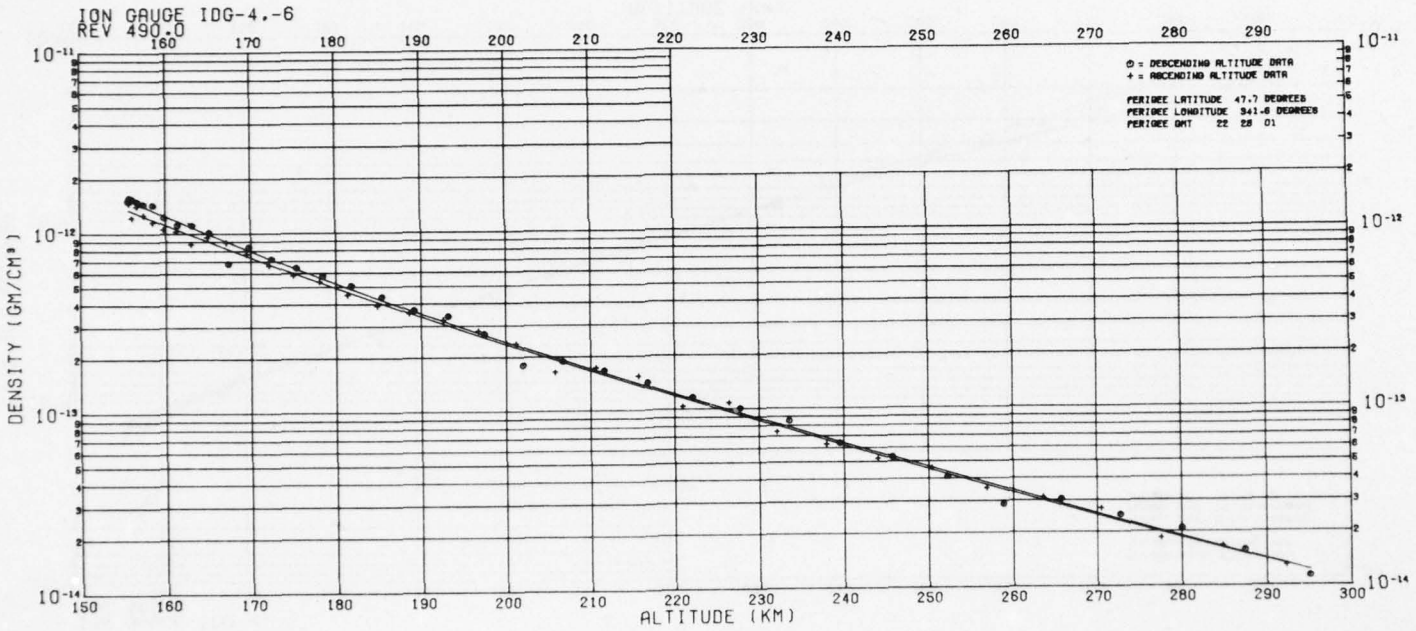

ION GAUGE IDG-4,-6
REV 472.0
DENSITY (GM/CM³)
ALTITUDE (KM)
© = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 60.8 DEGREES
PERIGEE LONGITUDE 169.6 DEGREES
PERIGEE GMT 8 55 27


ION GAUGE IDG-4.-6
REV 482.0
⊙ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 49.1 DEGREES
PERIGEE LONGITUDE 226.0 DEGREES
PERIGEE GMT 6 36 35
DENSITY (GM/CM³)
ALTITUDE (KM)


ION GAUGE IDG-4.-6
REV 486.0
⊙ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 48.4 DEGREES
PERIGEE LONGITUDE 109.3 DEGREES
PERIGEE GMT 14 21 16
DENSITY (GM/CM³)
ALTITUDE (KM)

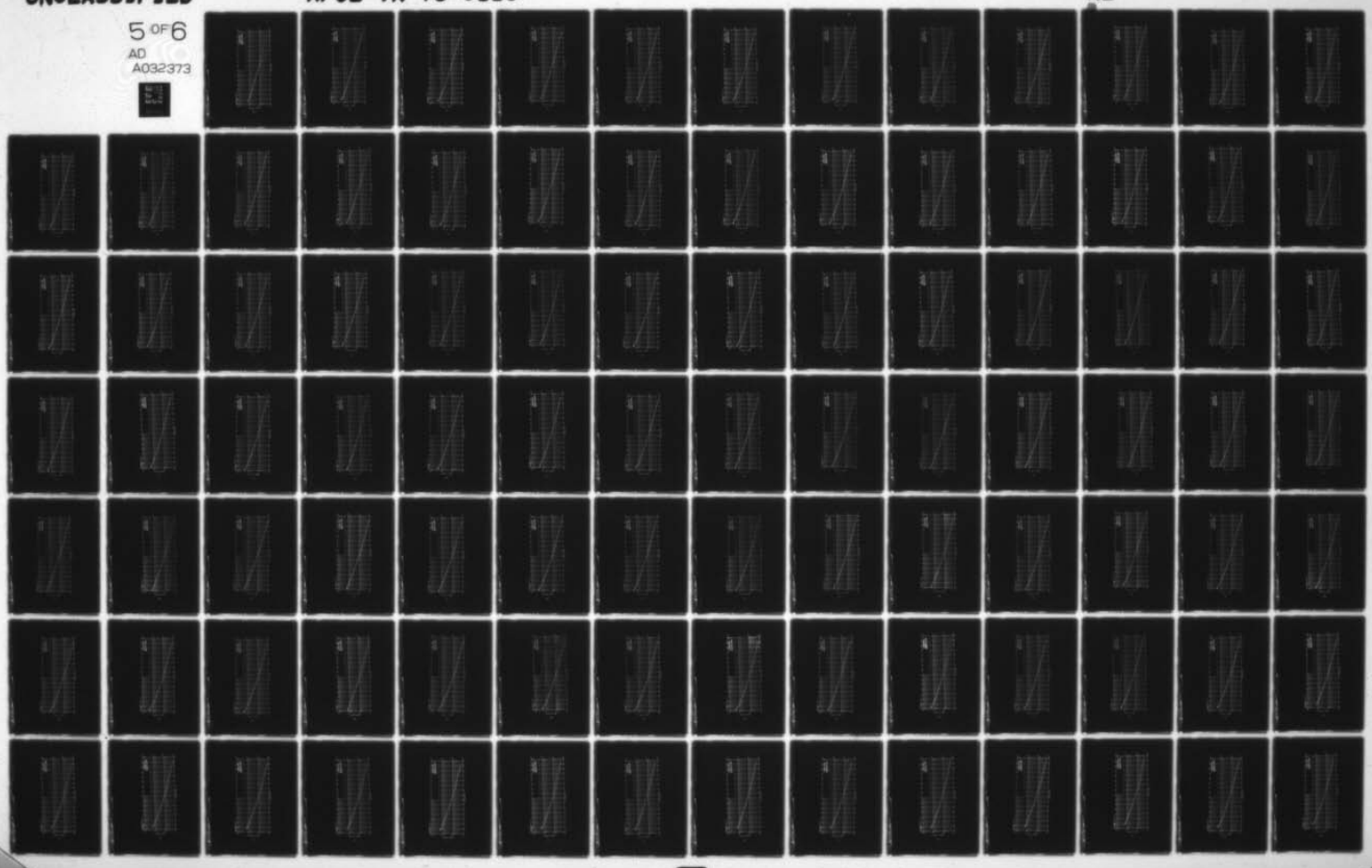

ION GAUGE IDG-4,-6
REV 488.0
⊙ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 48.0 DEGREES
PERIGEE LONGITUDE 42.4 DEGREES
PERIGEE GMT 18 28 30
DENSITY (GM/CM³)
ALTITUDE (KM)

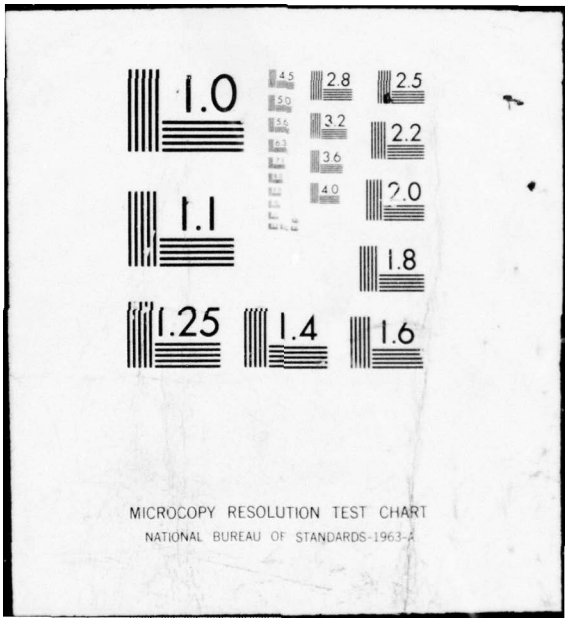

ION GAUGE IDG-4,-6
REV 489.0
⊙ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 47.8 DEGREES
PERIGEE LONGITUDE 12.0 DEGREES
PERIGEE GMT 20 28 18
DENSITY (GM/CM³)
ALTITUDE (KM)
10⁻¹¹
10⁻¹²
10⁻¹³
10⁻¹⁴
150
160
170
180
190
200
210
220
230
240
250
260
270
280
290
300

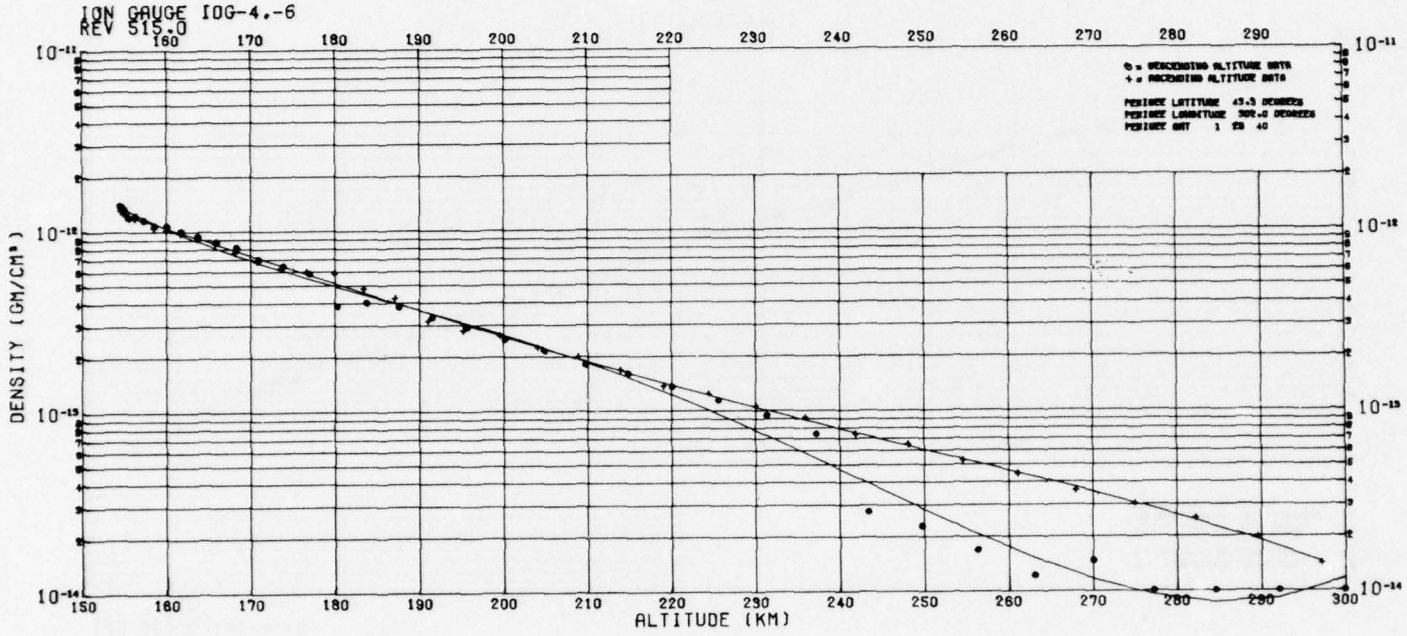

ION GAUGE IDG-4,-6
REV 490.0
⊖ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 47.7 DEGREES
PERIGEE LONGITUDE 341.6 DEGREES
PERIGEE GMT 22 28 01
DENSITY (GM/CM³)
ALTITUDE (KM)

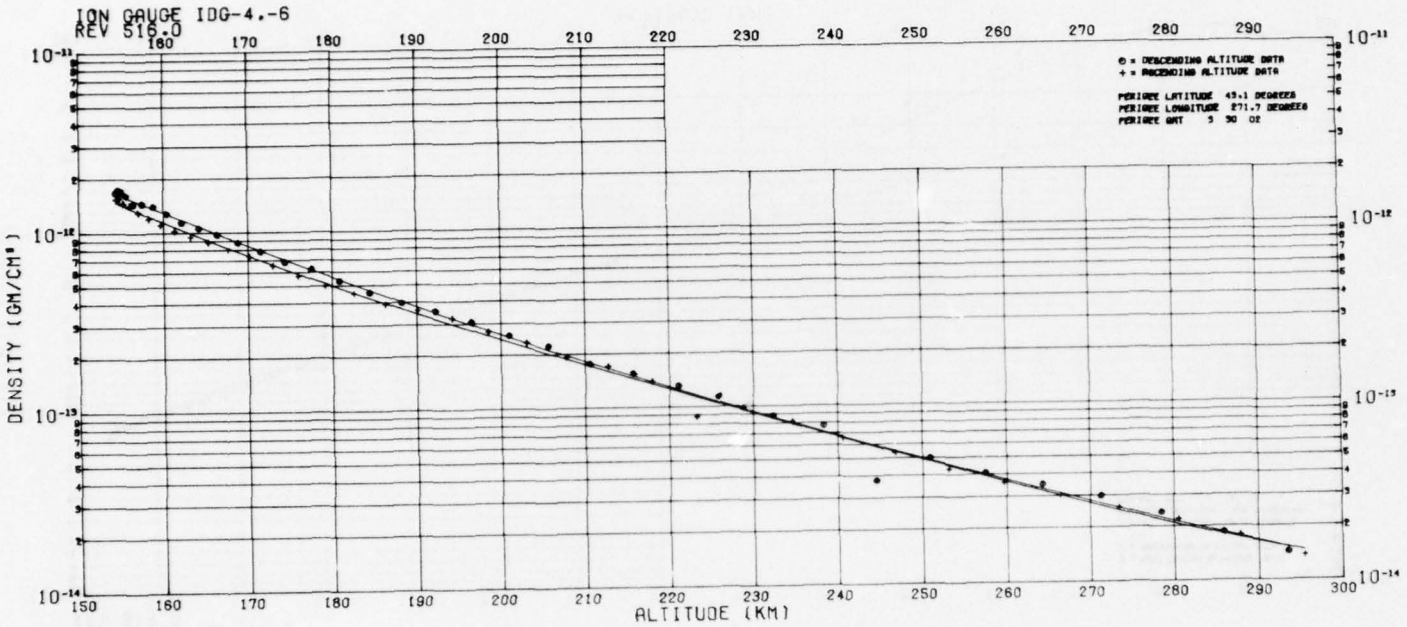
AD-A032 373 AIR FORCE GEOPHYSICS LAB HANSCOM AFB MASS F/G 4/1
IONIZATION GAUGE MEASUREMENTS OF ATMOSPHERIC DENSITY FROM A LOW--ETC(U)
MAY 76 J P MCISAAC, K S CHAMPION
UNCLASSIFIED AFGL-TR-76-0113 NL

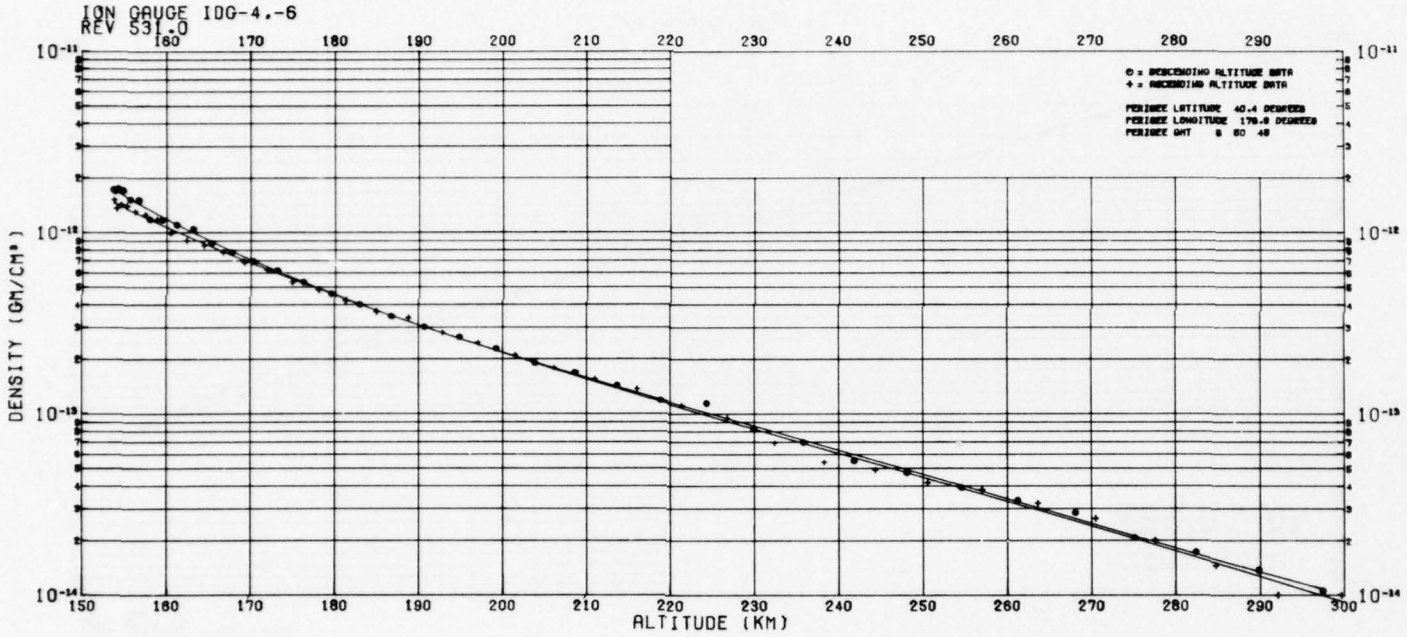
5 OF 6
AD
A032373

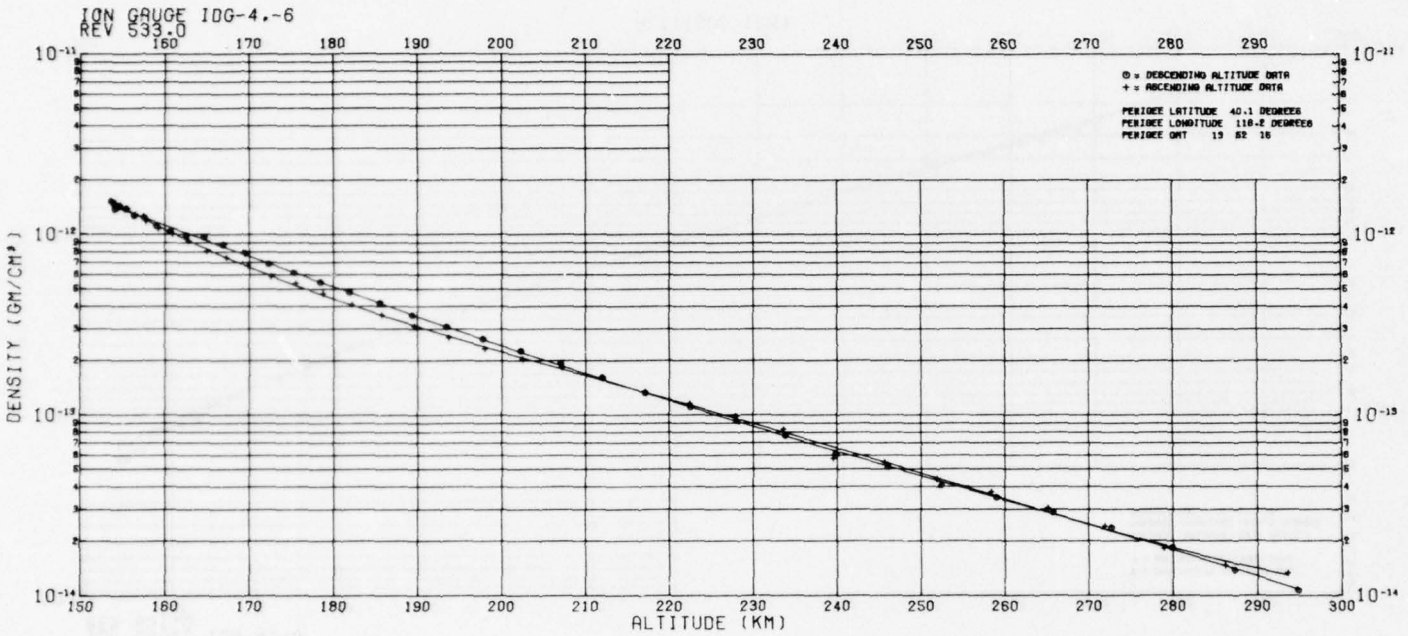


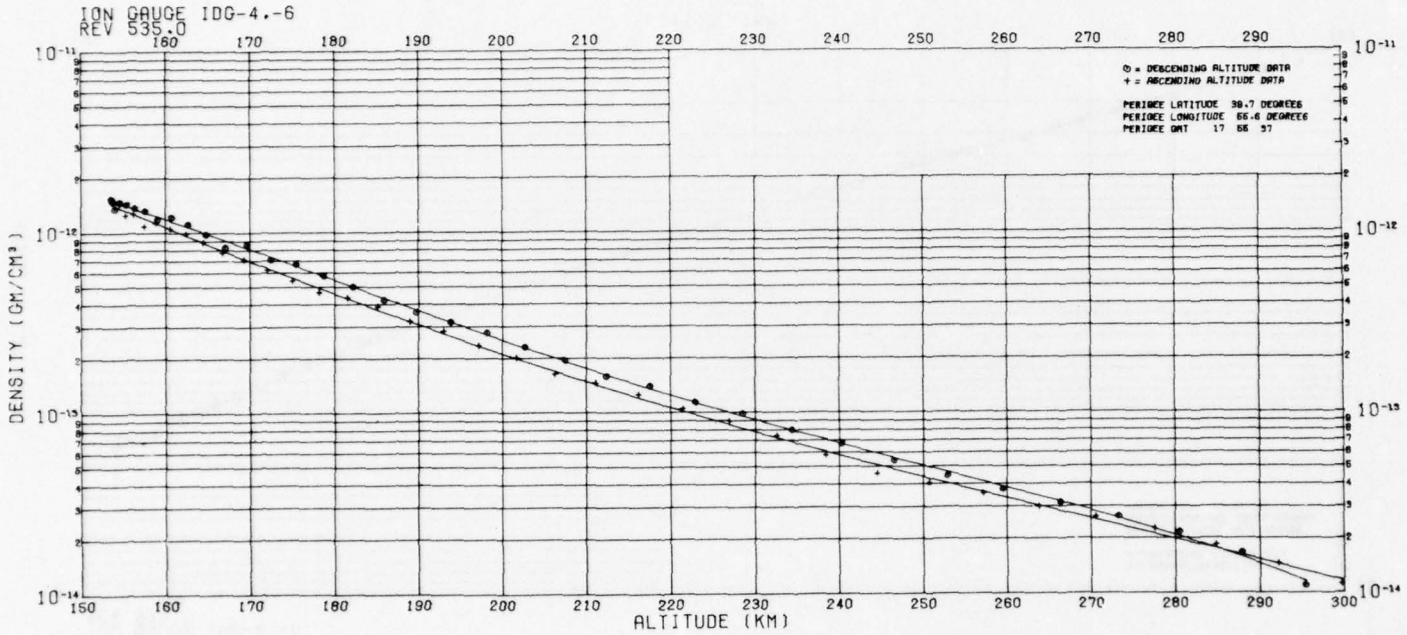

1.0
1.1
1.25
1.4
1.6
1.8
2.0
2.2
2.5
2.8
3.2
3.6
4.0
4.5
5.0
MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS-1963-A

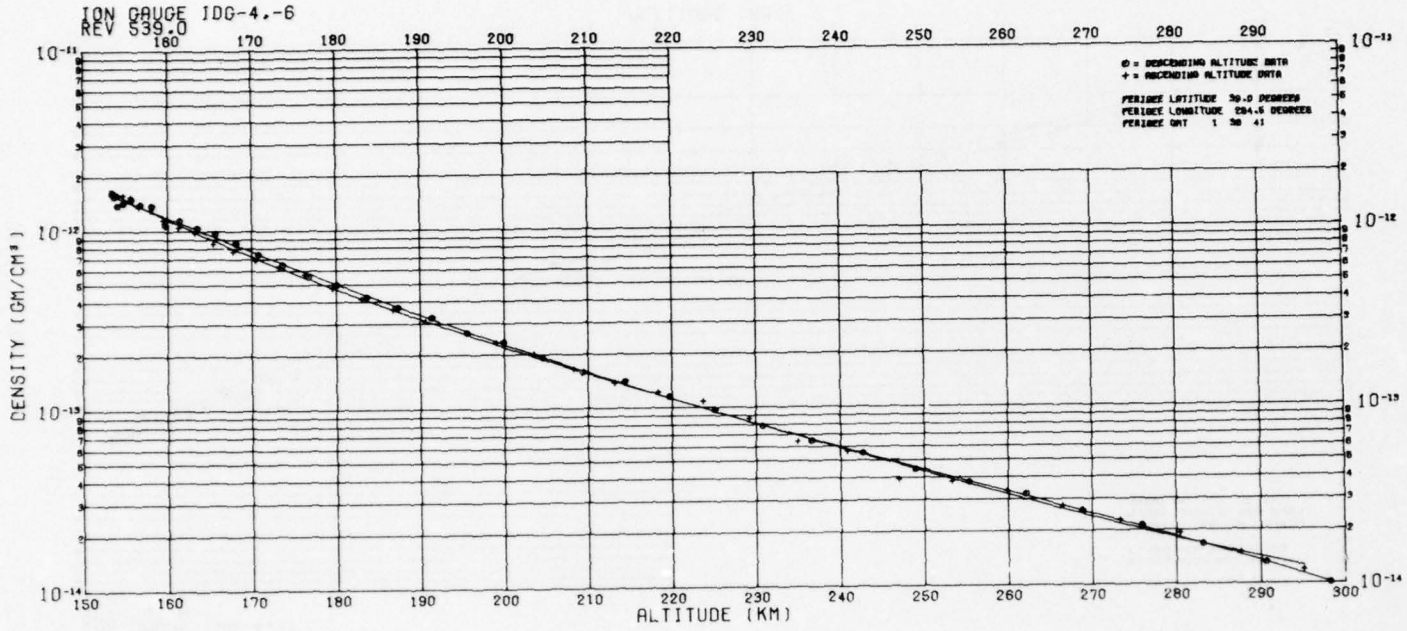

ION GAUGE IOG-4.-6
REV 515.0
DENSITY (GM/CM³)
ALTITUDE (KM)
150
160
170
180
190
200
210
220
230
240
250
260
270
280
290
300
10⁻¹¹
10⁻¹²
10⁻¹³
10⁻¹⁴
PERIGEE LATITUDE 43.3 DEGREES
PERIGEE LONGITUDE 309.0 DEGREES

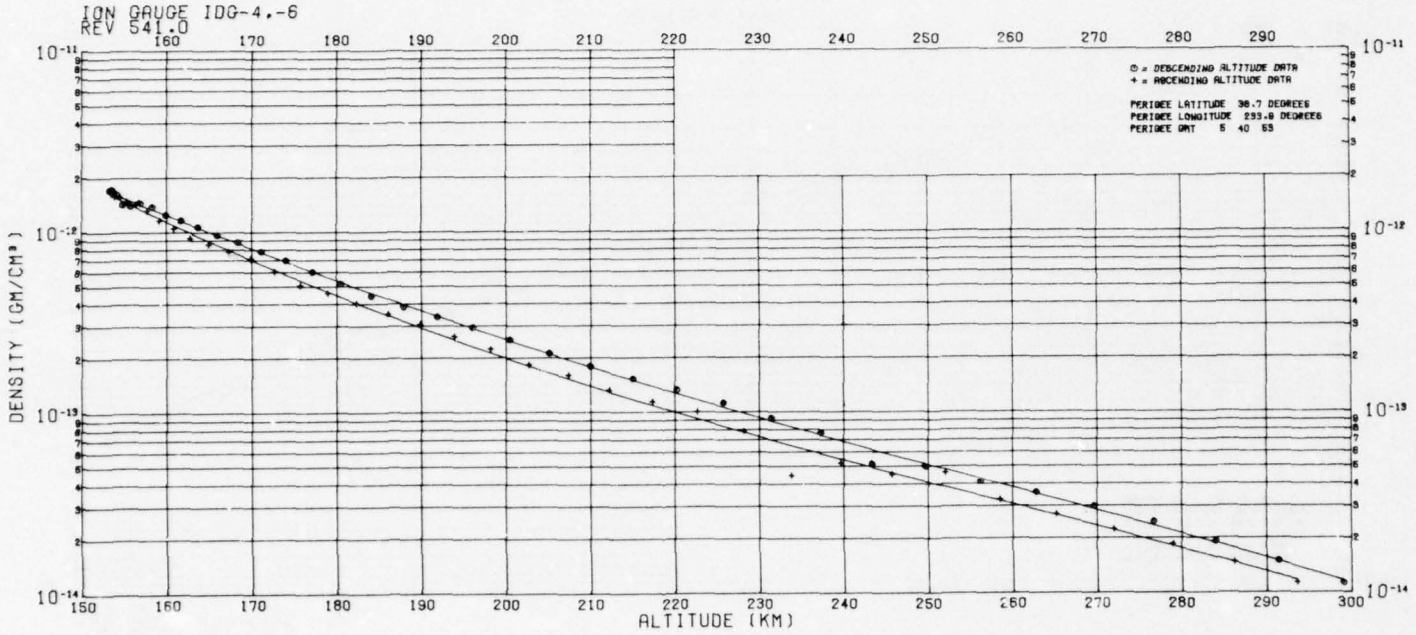

ION GAUGE IDG-4.-6
REV 516.0
o = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 49.1 DEGREES
PERIGEE LONGITUDE 271.7 DEGREES
PERIGEE GMT 5 30 02
DENSITY (GM/CM³)
ALTITUDE (KM)
10⁻¹¹
10⁻¹²
10⁻¹³
10⁻¹⁴
150
160
170
180
190
200
210
220
230
240
250
260
270
280
290
300

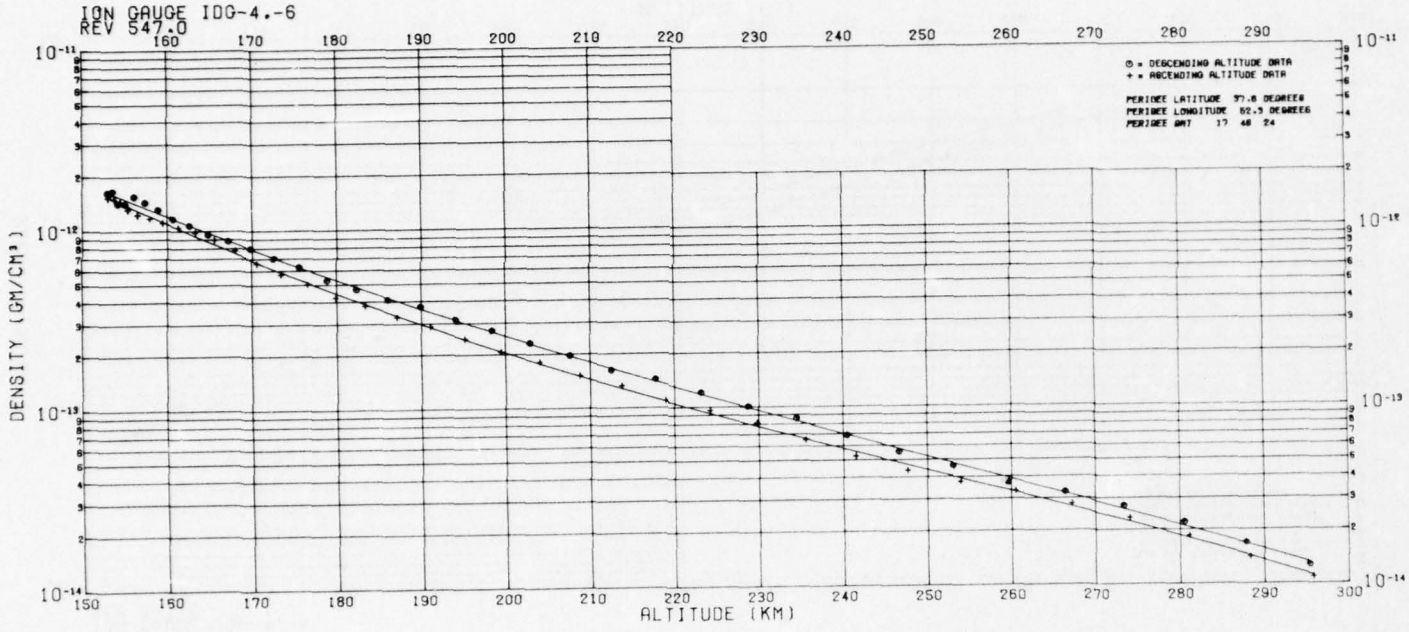

ION GAUGE IDG-4,-6
REV 531.0
DENSITY (GM/CM³)
ALTITUDE (KM)
⊙ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 40.4 DEGREES
PERIGEE LONGITUDE 178.8 DEGREES
PERIGEE GMT 8 50 48

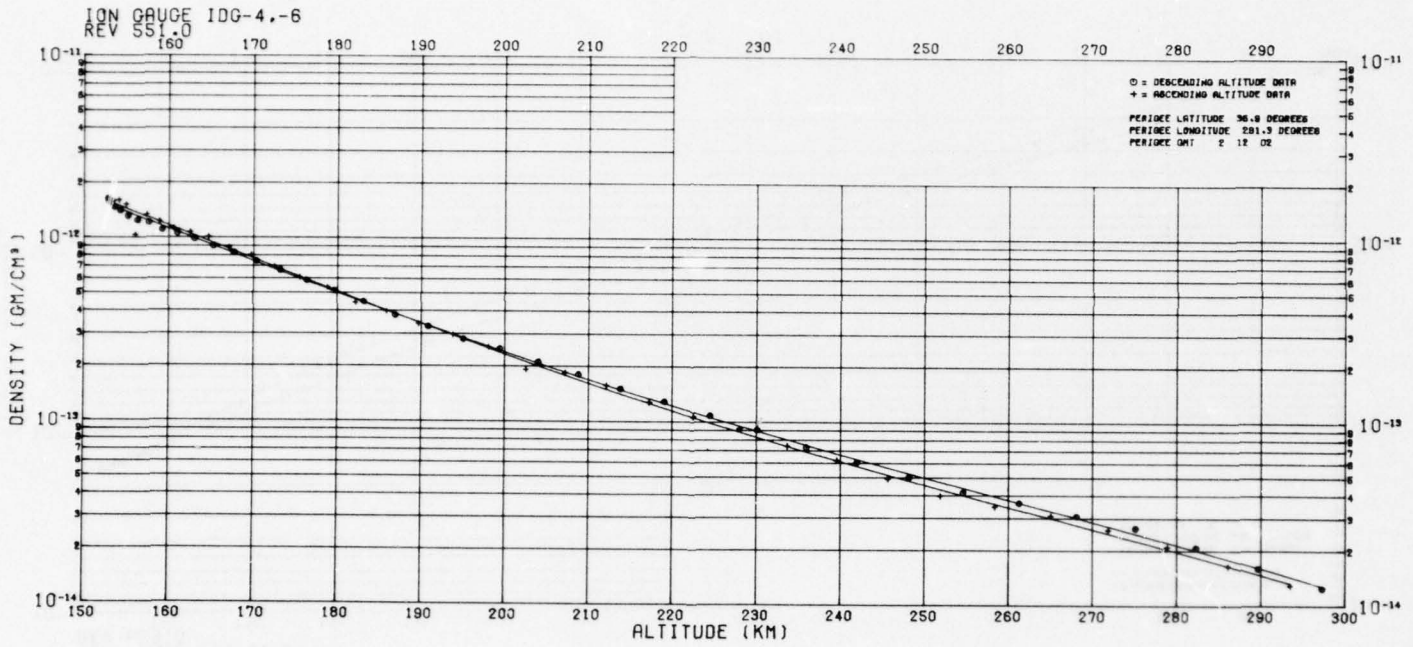

ION GAUGE IDG-4,-6
REV 533.0
DENSITY (GM/CM³)
ALTITUDE (KM)
⊙ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 40.1 DEGREES
PERIGEE LONGITUDE 116.2 DEGREES
PERIGEE GMT 19 52 16

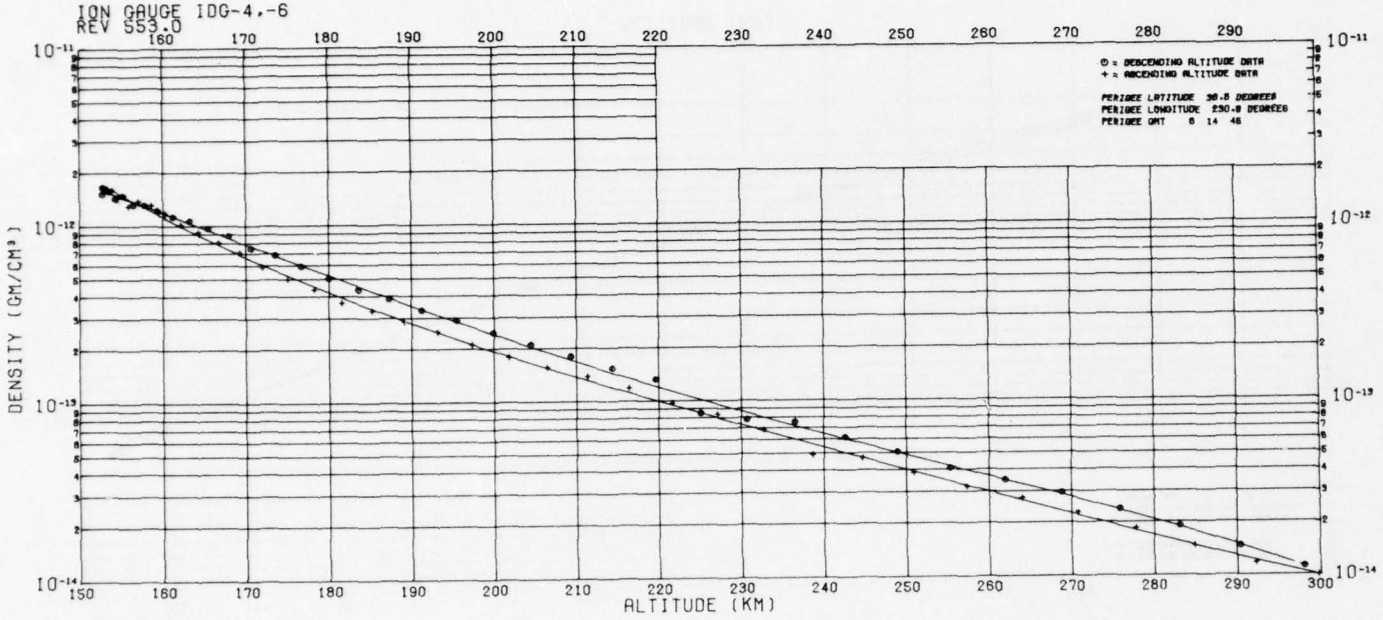

ION GAUGE IDG-4.-6
REV 535.0
DENSITY (GM/CM³)
ALTITUDE (KM)
⊙ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 30.7 DEGREES
PERIGEE LONGITUDE 66.6 DEGREES
PERIGEE GMT 17 56 37

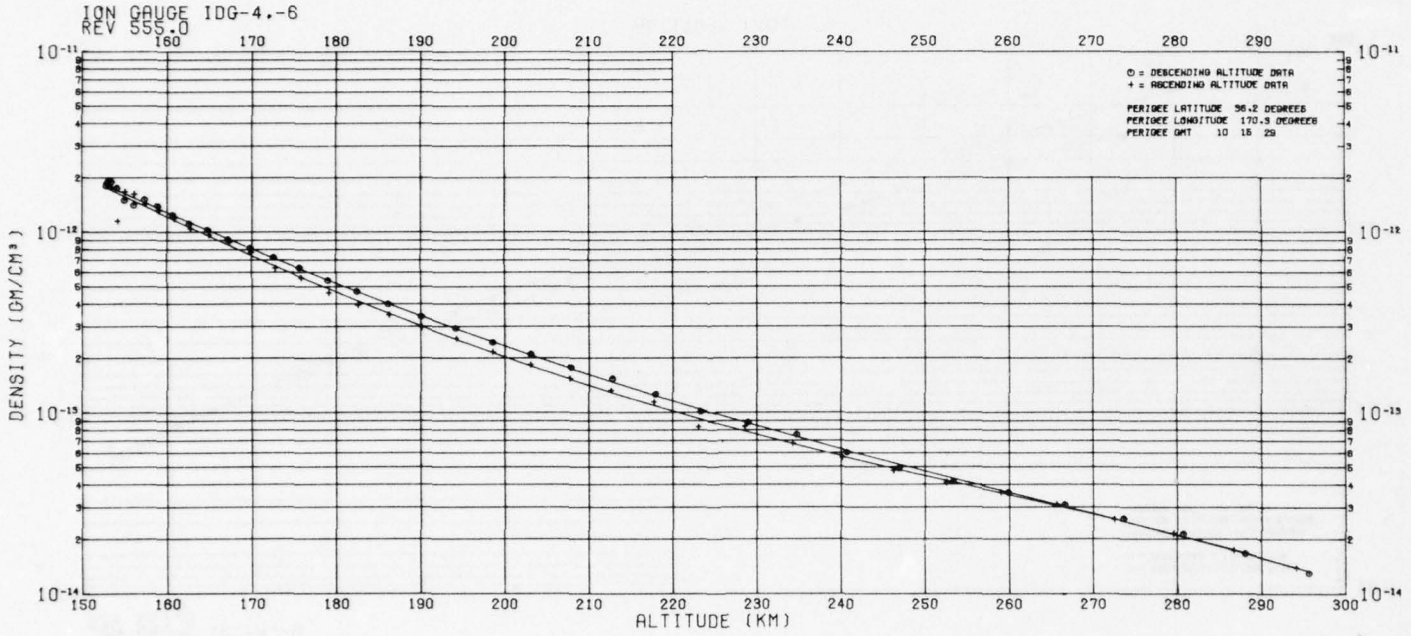

ION GAUGE IDG-4.-6
REV 539.0
DENSITY (GM/CM³)
ALTITUDE (KM)
⊖ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 39.0 DEGREES
PERIGEE LONGITUDE 284.5 DEGREES
PERIGEE GMT 1 38 41

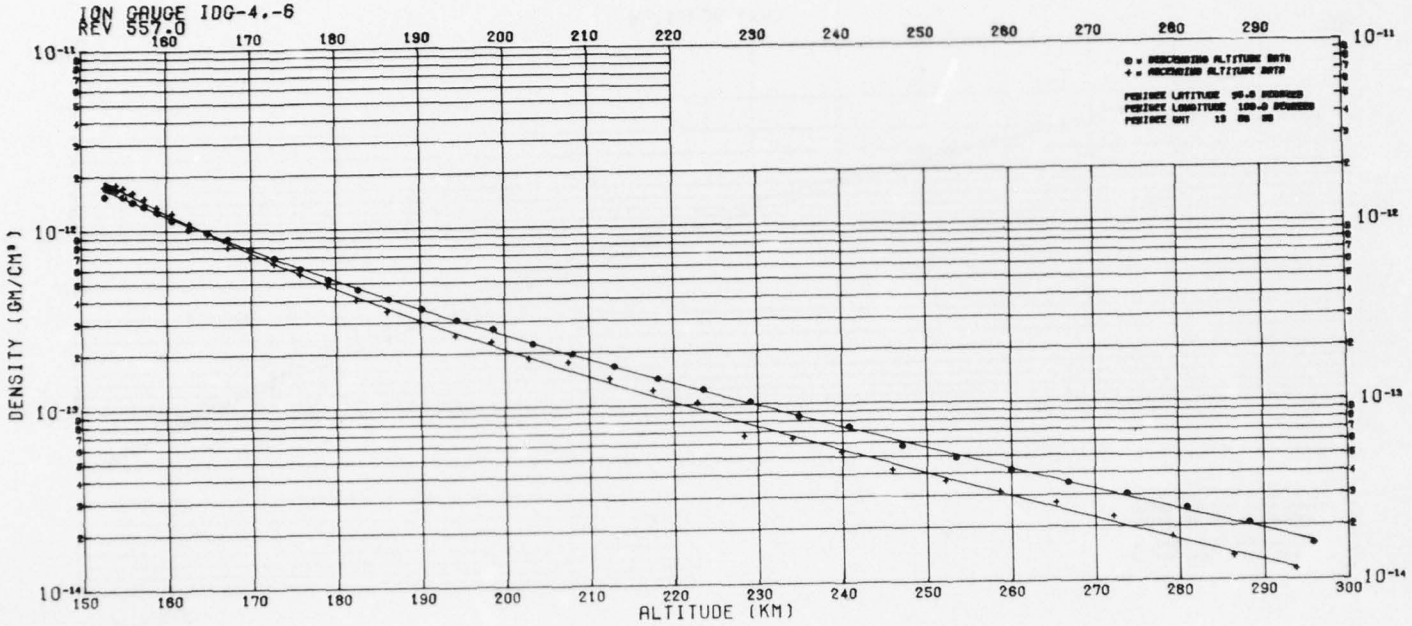

ION GAUGE IDG-4,-6
REV 541.0
⊙ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 38.7 DEGREES
PERIGEE LONGITUDE 233.8 DEGREES
PERIGEE GMT 5 40 53
DENSITY (GM/CM³)
ALTITUDE (KM)
10⁻¹¹
10⁻¹²
10⁻¹³
10⁻¹⁴
150
160
170
180
190
200
210
220
230
240
250
260
270
280
290
300

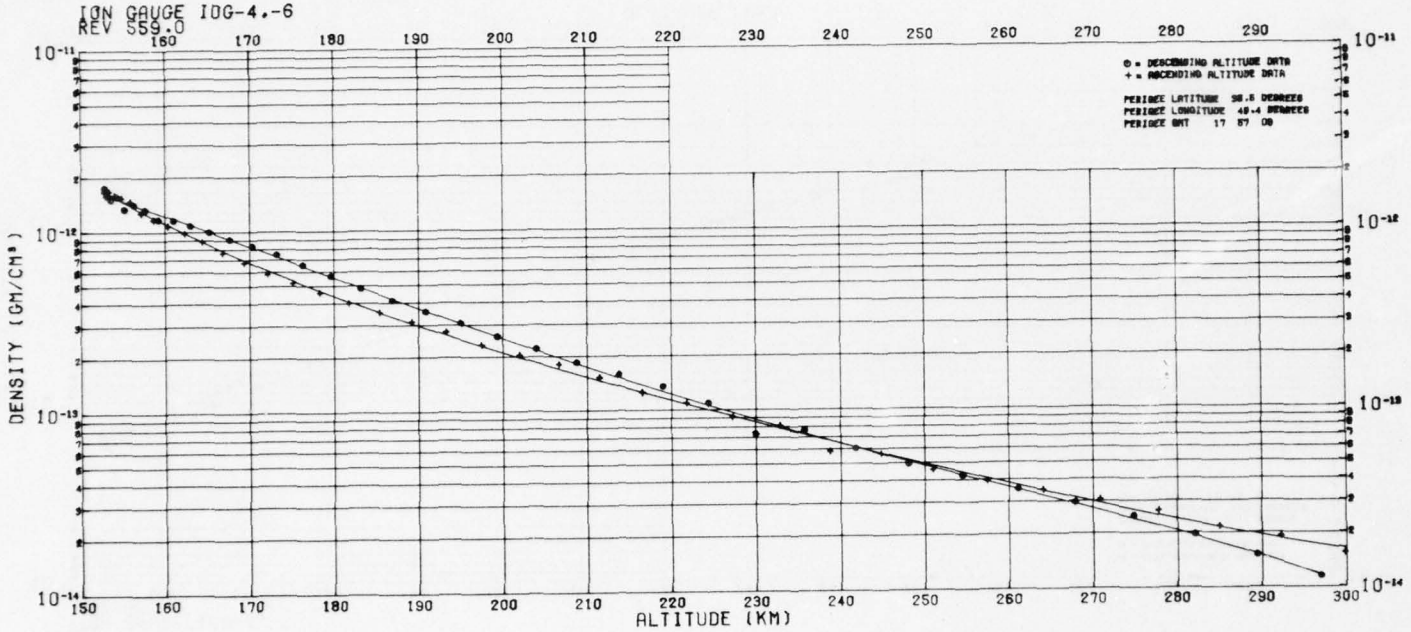

ION GAUGE IDG-4.-6
REV 547.0
⊙ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 57.8 DEGREES
PERIGEE LONGITUDE 62.3 DEGREES
PERIGEE GMT 17 48 24
DENSITY (GM/CM³)
ALTITUDE (KM)

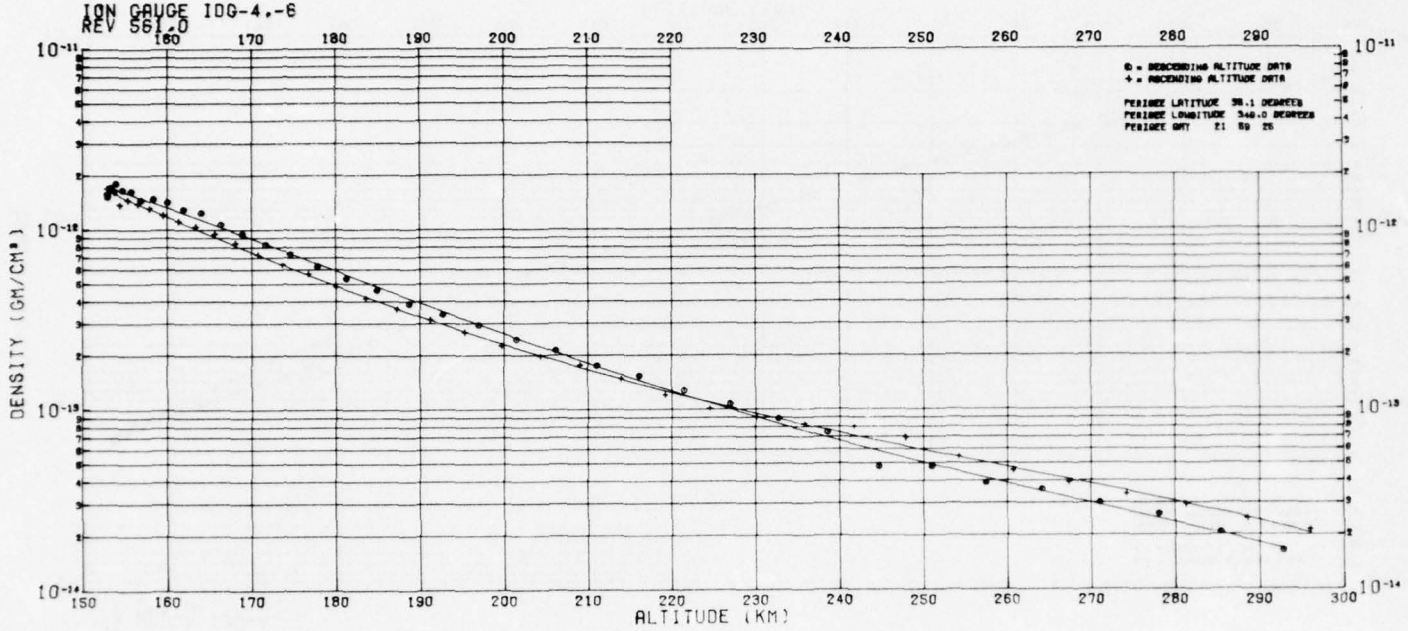

ION GAUGE IDG-4,-6
REV 551.0
⊙ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 36.8 DEGREES
PERIGEE LONGITUDE 281.3 DEGREES
PERIGEE GMT 2 12 02
DENSITY (GM/CM³)
ALTITUDE (KM)
10⁻¹¹
10⁻¹²
10⁻¹³
10⁻¹⁴
150
160
170
180
190
200
210
220
230
240
250
260
270
280
290
300

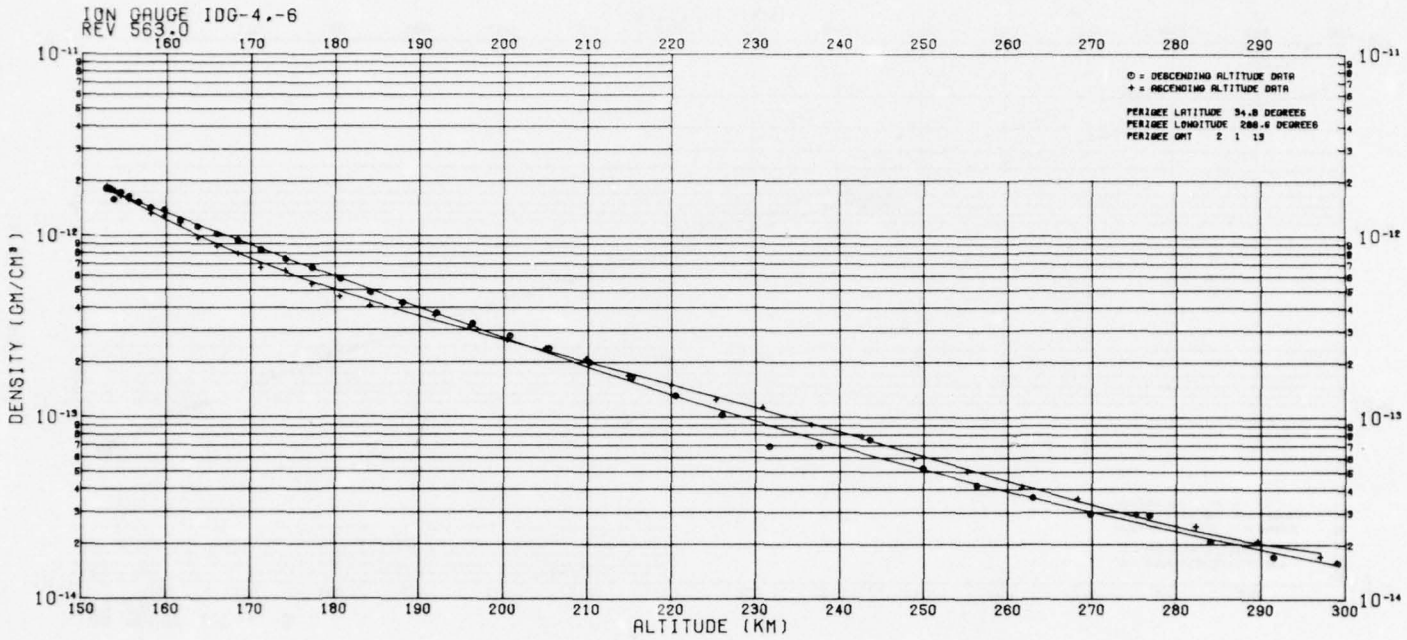

ION GAUGE IDG-4,-6
REV 553.0
⊙ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 30.8 DEGREES
PERIGEE LONGITUDE 230.8 DEGREES
PERIGEE GMT 8 14 46
DENSITY (GM/CM³)
ALTITUDE (KM)
10⁻¹¹
10⁻¹²
10⁻¹³
10⁻¹⁴
150
160
170
180
190
200
210
220
230
240
250
260
270
280
290
300

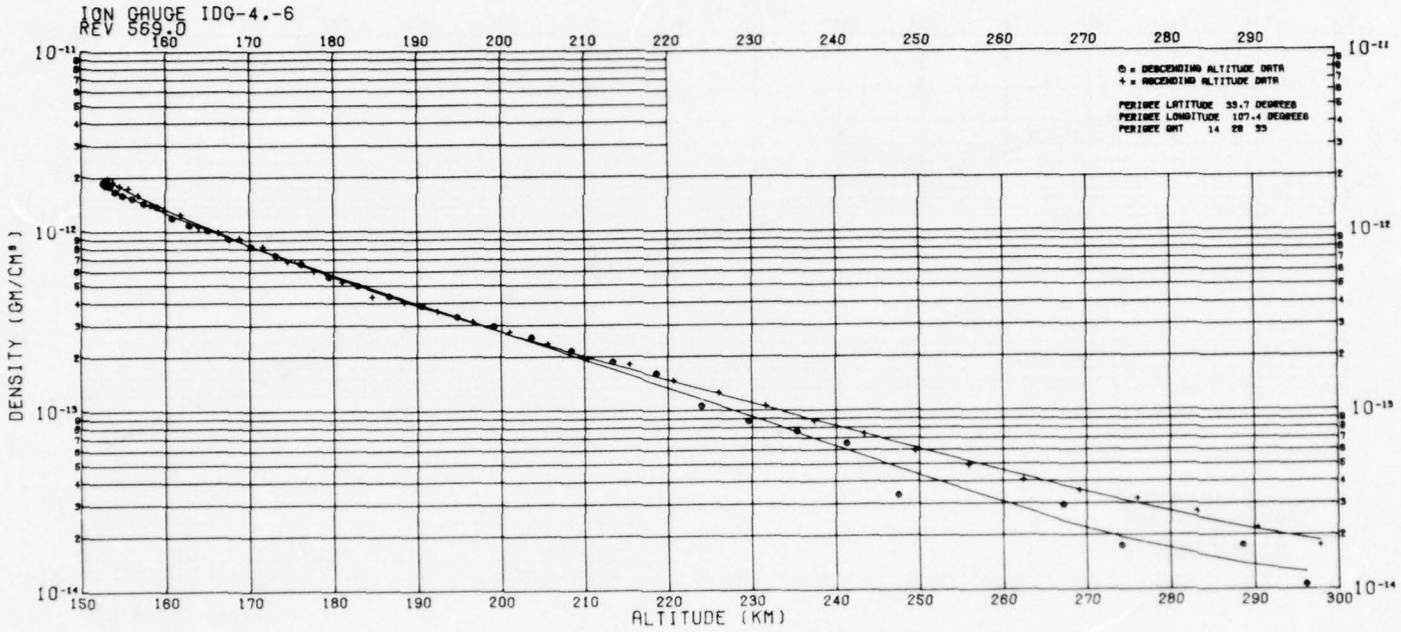

ION GAUGE IDG-4.-6
REV 555.0
⊙ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 56.2 DEGREES
PERIGEE LONGITUDE 170.3 DEGREES
PERIGEE GMT 10 15 29
DENSITY (GM/CM³)
ALTITUDE (KM)
10⁻¹¹
10⁻¹²
10⁻¹³
10⁻¹⁴
150
160
170
180
190
200
210
220
230
240
250
260
270
280
290
300

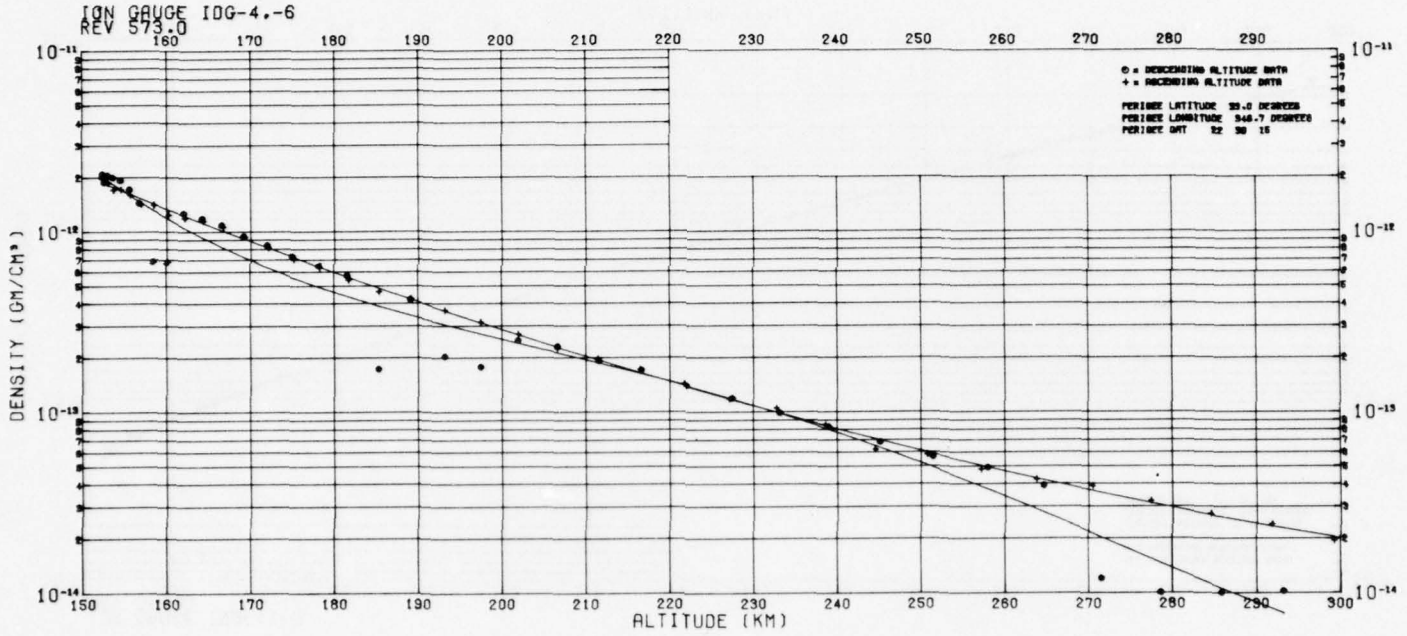

ION GAUGE IDG-4.-6
REV 557.0
DENSITY (GM/CM³)
ALTITUDE (KM)
150
160
170
180
190
200
210
220
230
240
250
260
270
280
290
300
10⁻¹¹
10⁻¹²
10⁻¹³
10⁻¹⁴

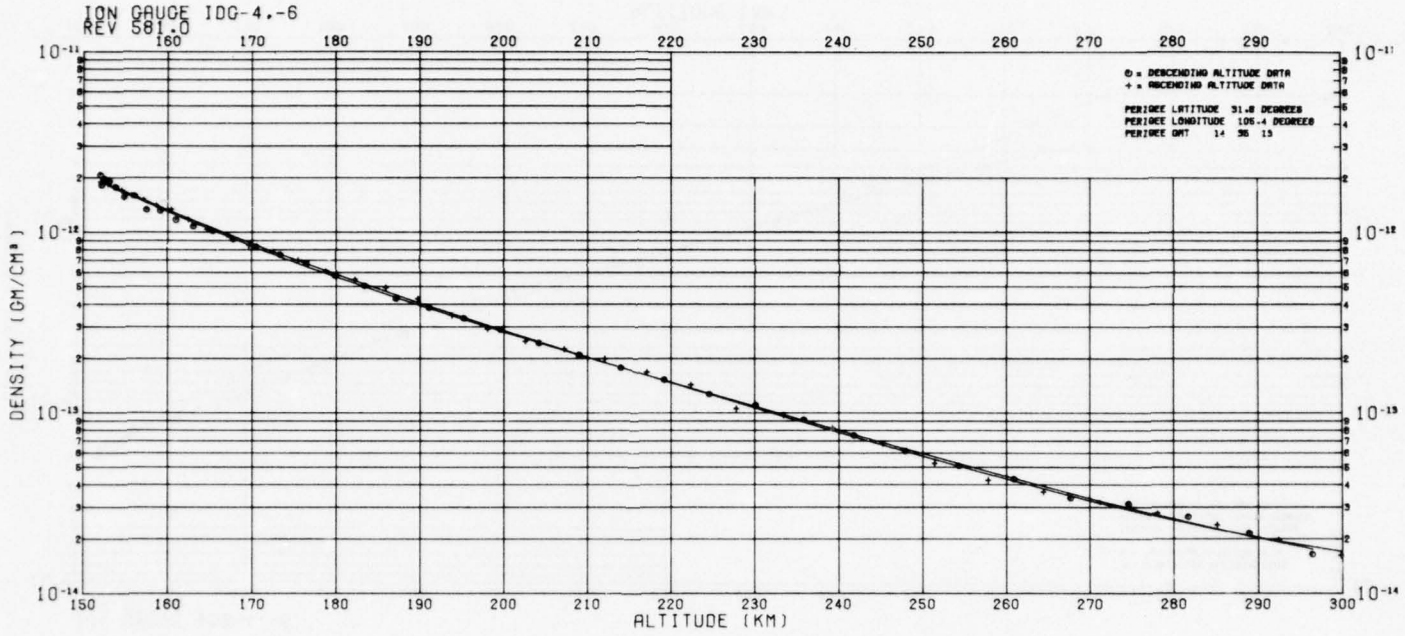

ION GAUGE IDG-4.-6
REV 559.0
DENSITY (GM/CM³)
ALTITUDE (KM)
⊙ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 98.8 DEGREES
PERIGEE LONGITUDE 49.4 DEGREES
PERIGEE GMT 17 57 00

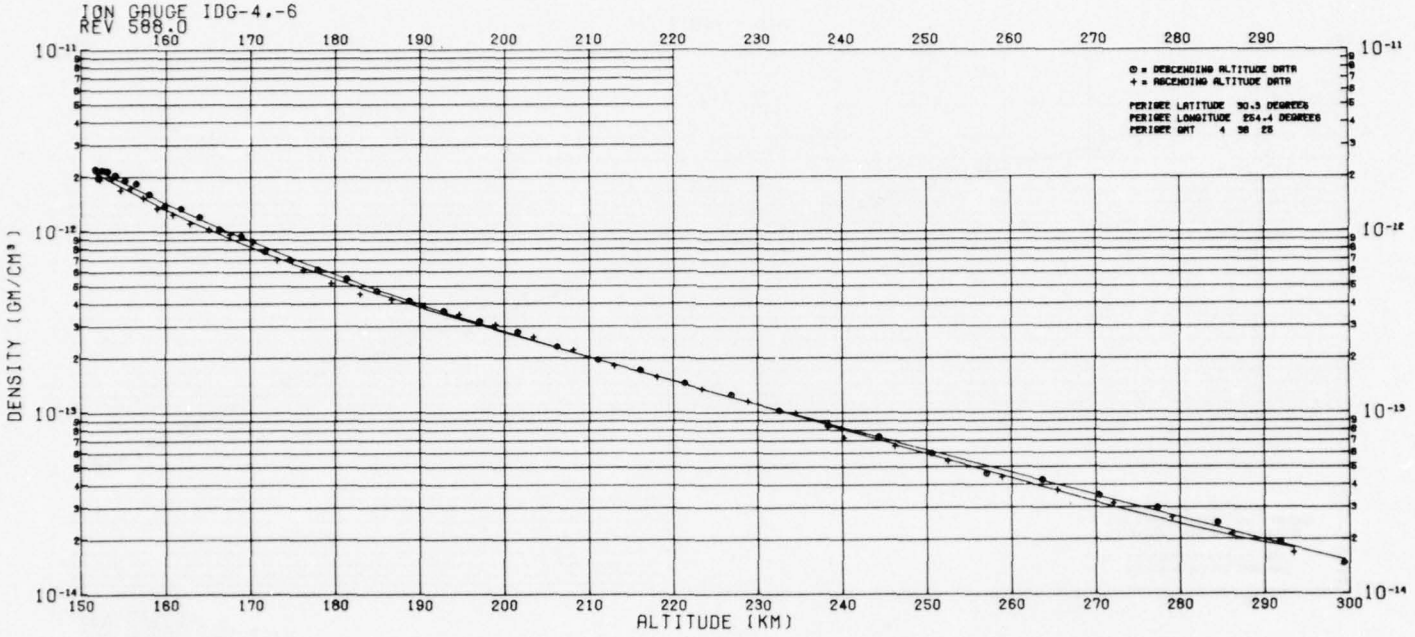

ION GAUGE IDG-4,-6
REV 561.0
DENSITY (GM/CM³)
ALTITUDE (KM)
150
160
170
180
190
200
210
220
230
240
250
260
270
280
290
300
10⁻¹¹
10⁻¹²
10⁻¹³
10⁻¹⁴
- = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 58.1 DEGREES
PERIGEE LONGITUDE 340.0 DEGREES
PERIGEE GMT 21 59 25

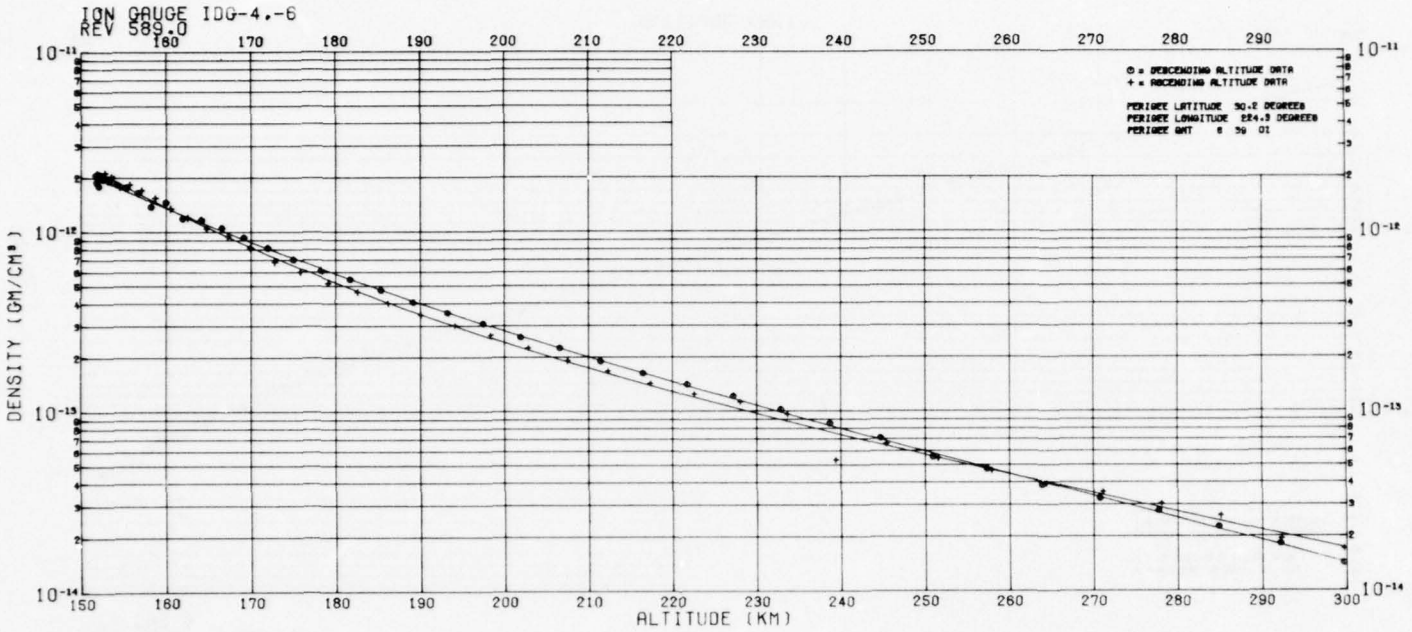

ION GAUGE IDG-4,-6
REV 563.0
© = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 34.8 DEGREES
PERIGEE LONGITUDE 288.6 DEGREES
PERIGEE GMT 2 1 13
DENSITY (GM/CM³)
ALTITUDE (KM)
10⁻¹¹
10⁻¹²
10⁻¹³
10⁻¹⁴
150
160
170
180
190
200
210
220
230
240
250
260
270
280
290
300

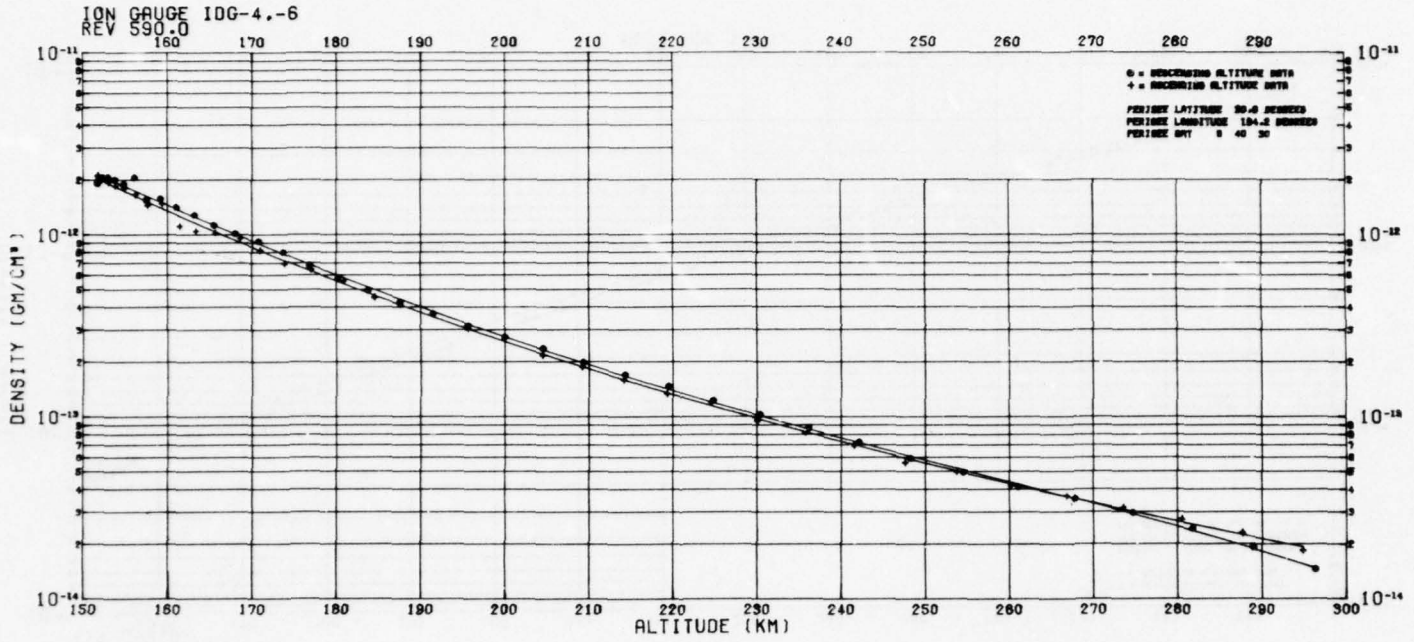

ION GAUGE IDG-4,-6
REV 569.0
DENSITY (GM/CM³)
ALTITUDE (KM)
⊖ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 33.7 DEGREES
PERIGEE LONGITUDE 107.4 DEGREES
PERIGEE GMT 14 28 33

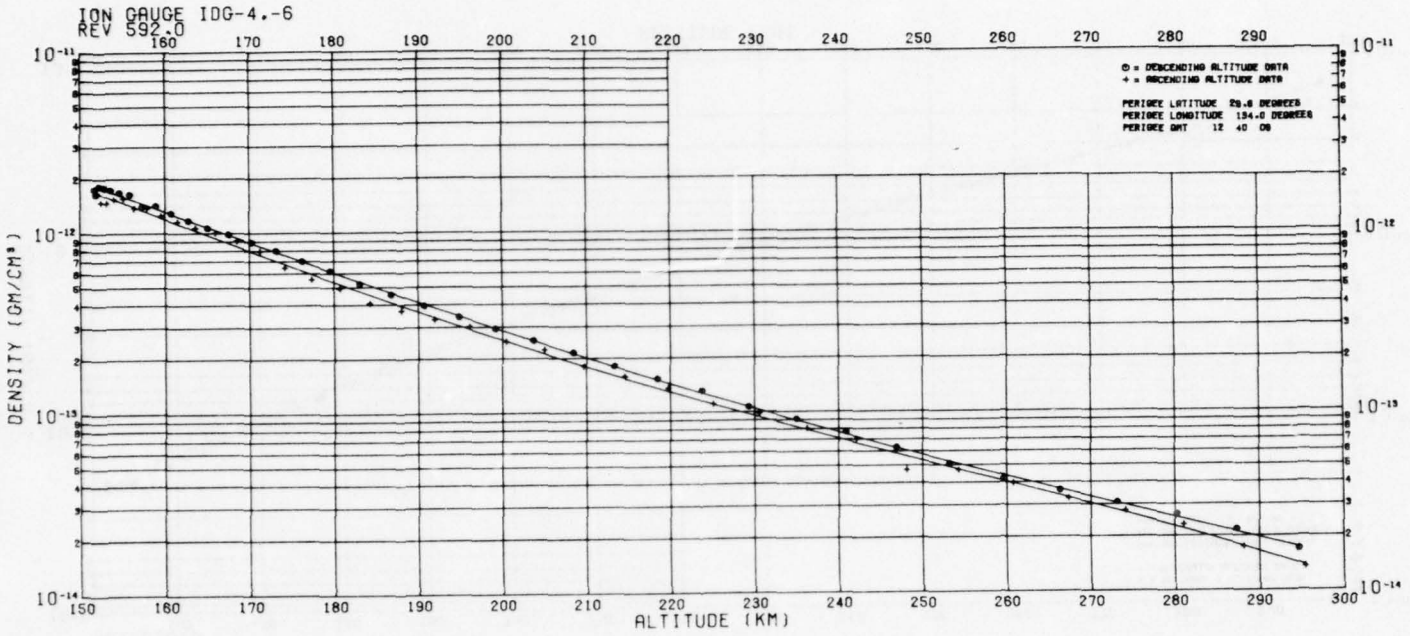

ION GAUGE IDG-4,-6
REV 573.0
DENSITY (GM/CM³)
ALTITUDE (KM)
© = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 33.0 DEGREES
PERIGEE LONGITUDE 346.7 DEGREES
PERIGEE GMT 22 30 15

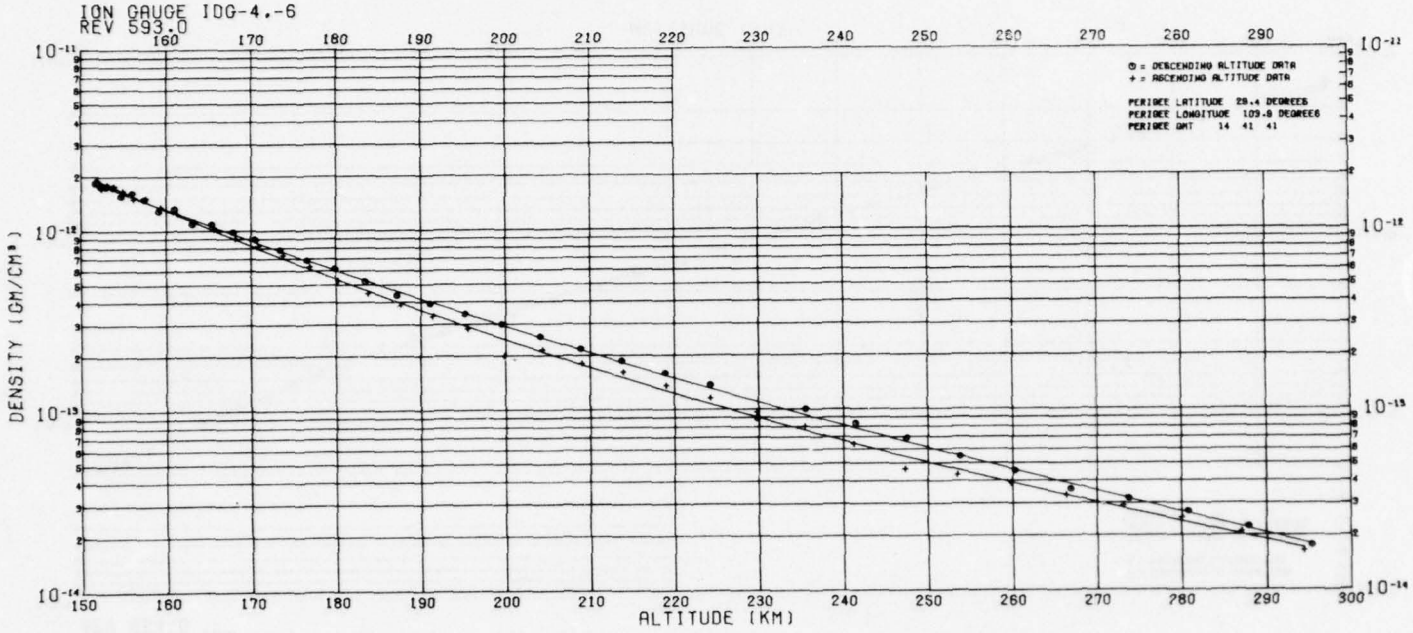

ION GAUGE IDG-4,-6
REV 581.0
DENSITY (GM/CM³)
ALTITUDE (KM)
○ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 31.8 DEGREES
PERIGEE LONGITUDE 106.4 DEGREES
PERIGEE GMT 14 38 13

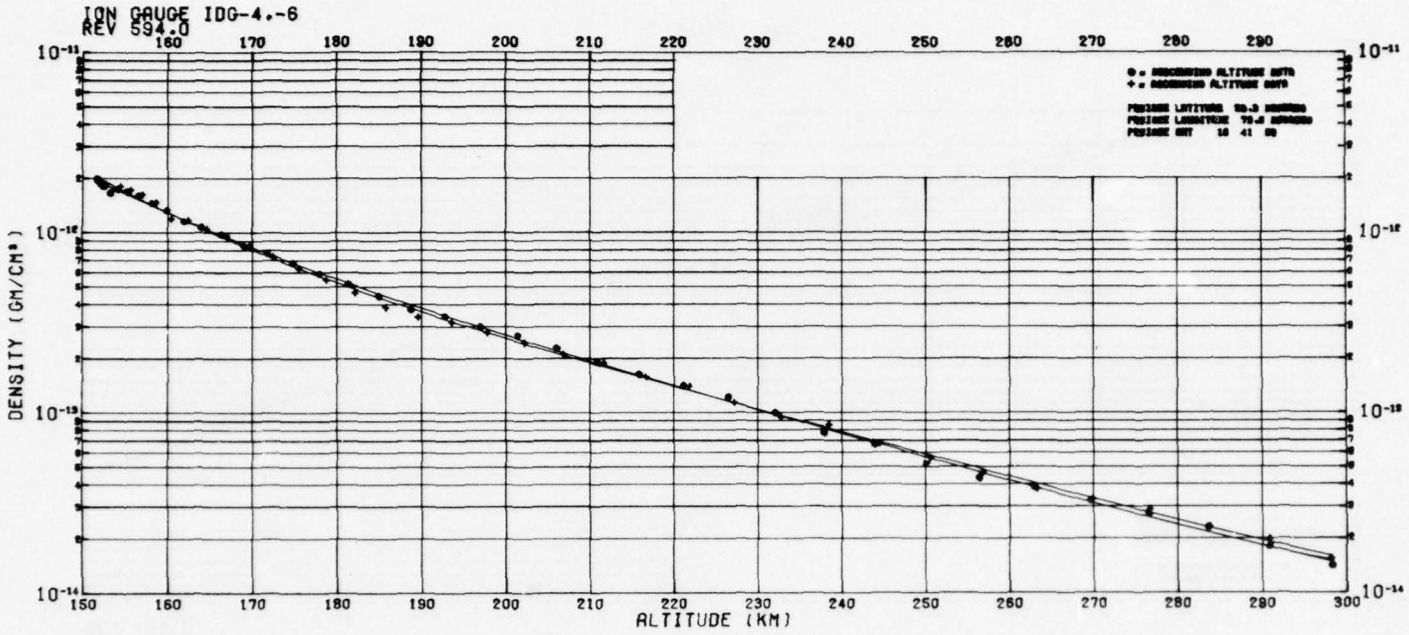

ION GAUGE IDG-4,-6
REV 588.0
⊙ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 30.3 DEGREES
PERIGEE LONGITUDE 254.4 DEGREES
PERIGEE GMT 4 58 25
DENSITY (GM/CM³)
ALTITUDE (KM)
10⁻¹¹
10⁻¹²
10⁻¹³
10⁻¹⁴
150
160
170
180
190
200
210
220
230
240
250
260
270
280
290
300

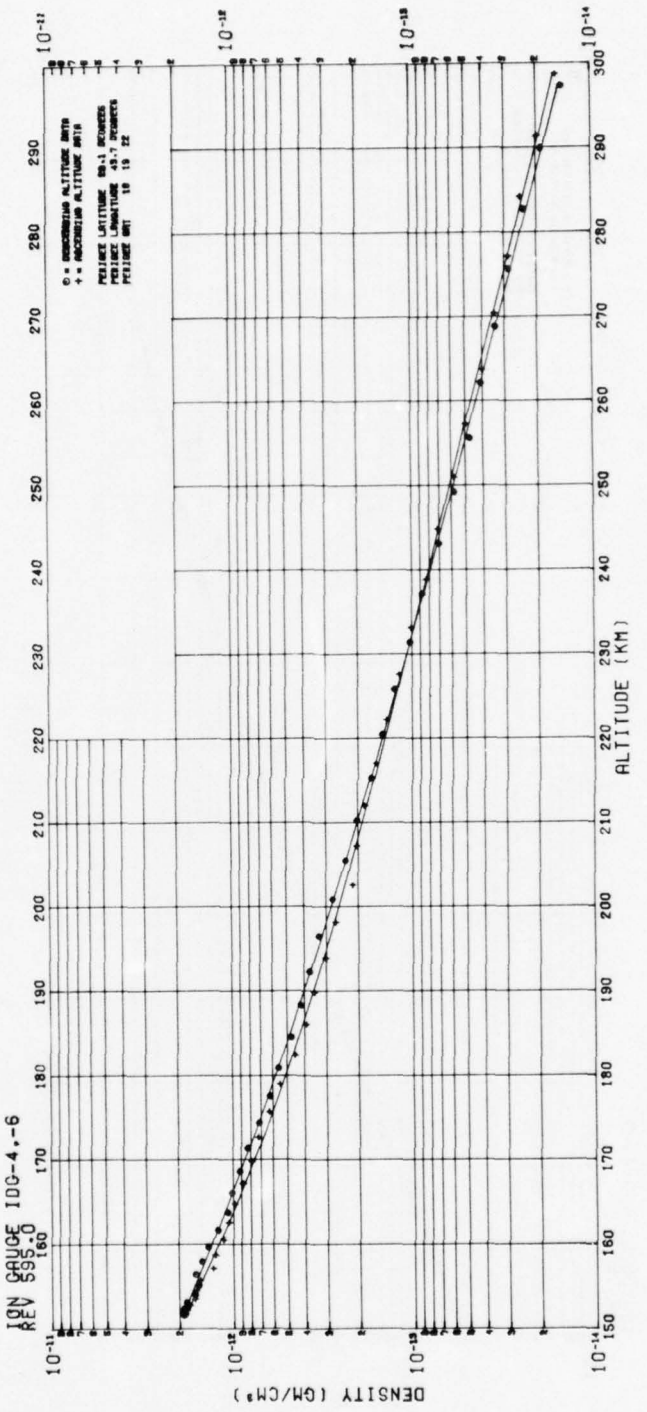

ION GAUGE IDG-4,-6
REV 589.0
⊙ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 30.2 DEGREES
PERIGEE LONGITUDE 224.3 DEGREES
PERIGEE GMT 6 39 01
DENSITY (GM/CM³)
ALTITUDE (KM)
10⁻¹¹
10⁻¹²
10⁻¹³
10⁻¹⁴
150
160
170
180
190
200
210
220
230
240
250
260
270
280
290
300

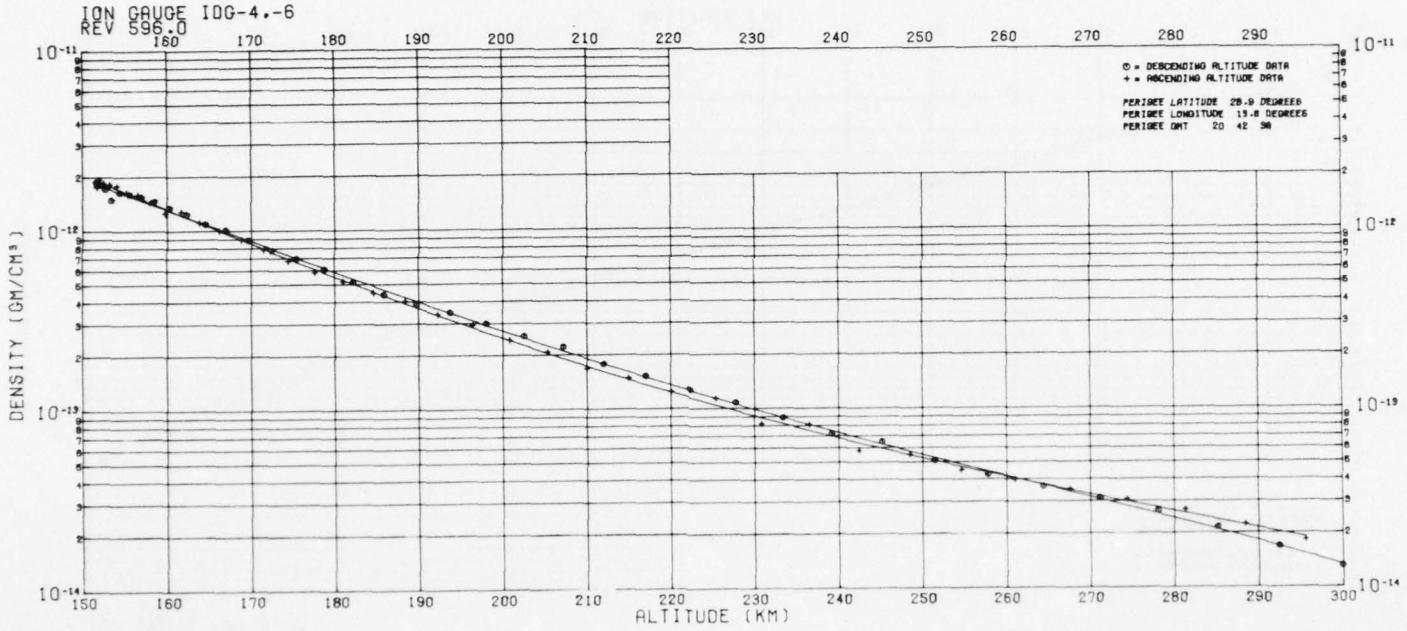

ION GAUGE IDG-4,-6
REV 590.0
DENSITY (GM/CM³)
ALTITUDE (KM)
150
160
170
180
190
200
210
220
230
240
250
260
270
280
290
300
10⁻¹¹
10⁻¹²
10⁻¹³
10⁻¹⁴

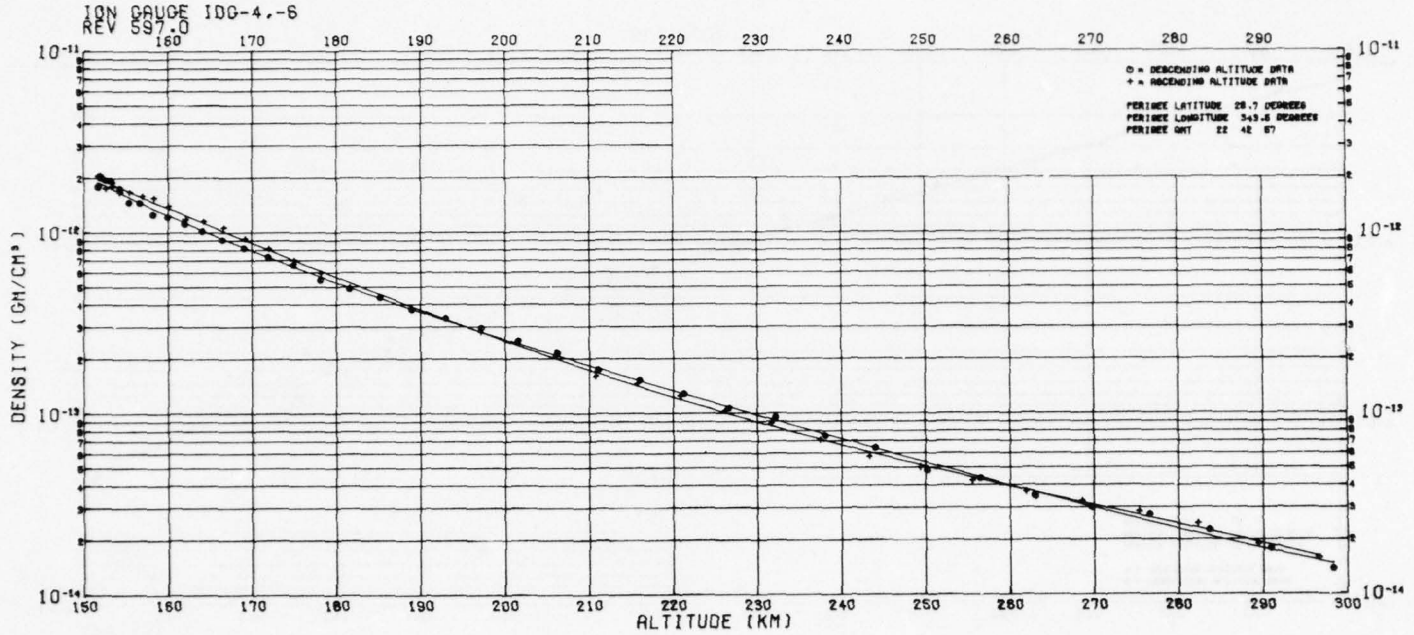

ION GAUGE IDG-4.-6
REV 592.0
⊙ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 29.6 DEGREES
PERIGEE LONGITUDE 134.0 DEGREES
PERIGEE GMT 12 40 00
DENSITY (GM/CM³)
ALTITUDE (KM)
10⁻¹¹
10⁻¹²
10⁻¹³
10⁻¹⁴
150
160
170
180
190
200
210
220
230
240
250
260
270
280
290
300

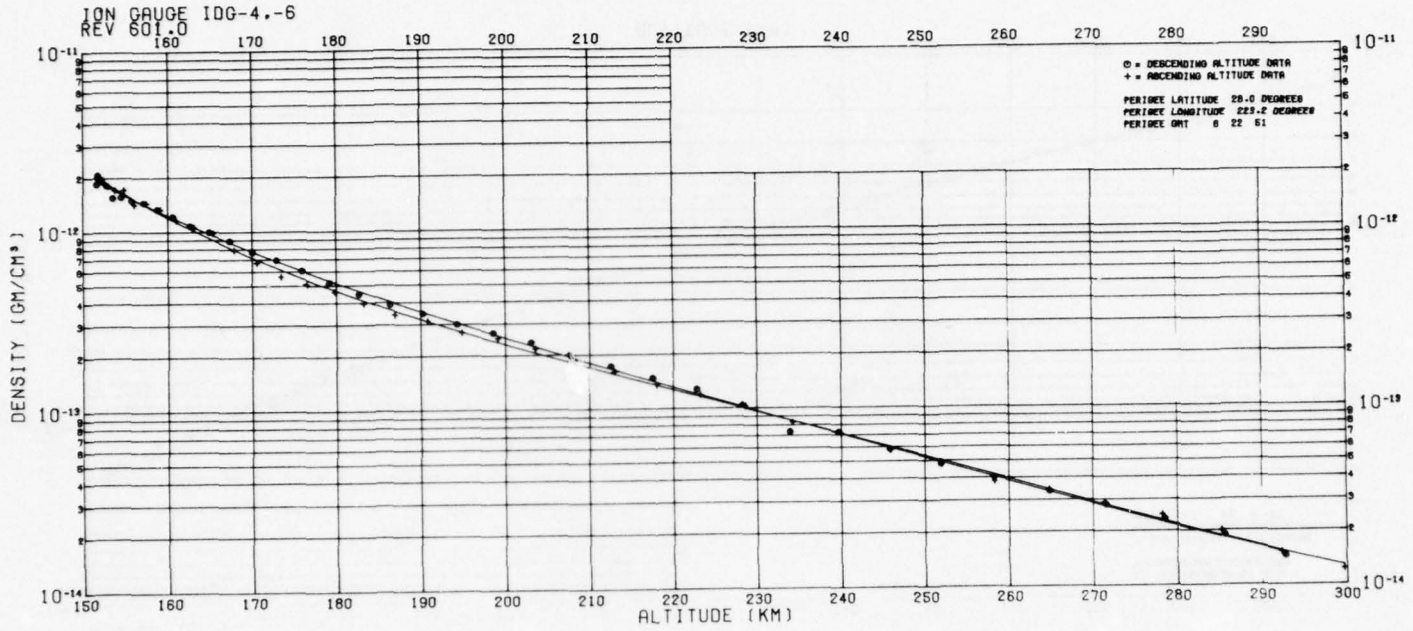

ION GAUGE IDG-4,-6
REV 593.0
⊙ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 29.4 DEGREES
PERIGEE LONGITUDE 109.8 DEGREES
PERIGEE GMT 14 41 41
DENSITY (GM/CM³)
ALTITUDE (KM)

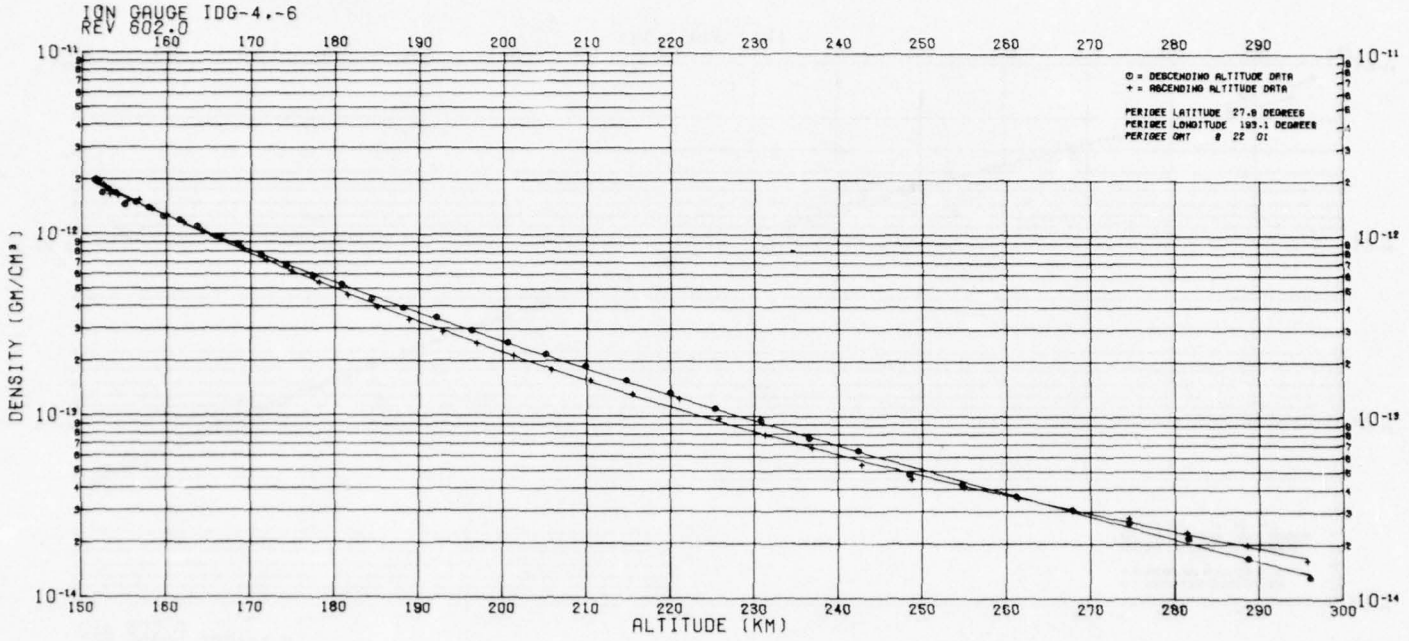

ION GAUGE IDG-4.-6
REV 594.0
DENSITY (GM/CM³)
ALTITUDE (KM)

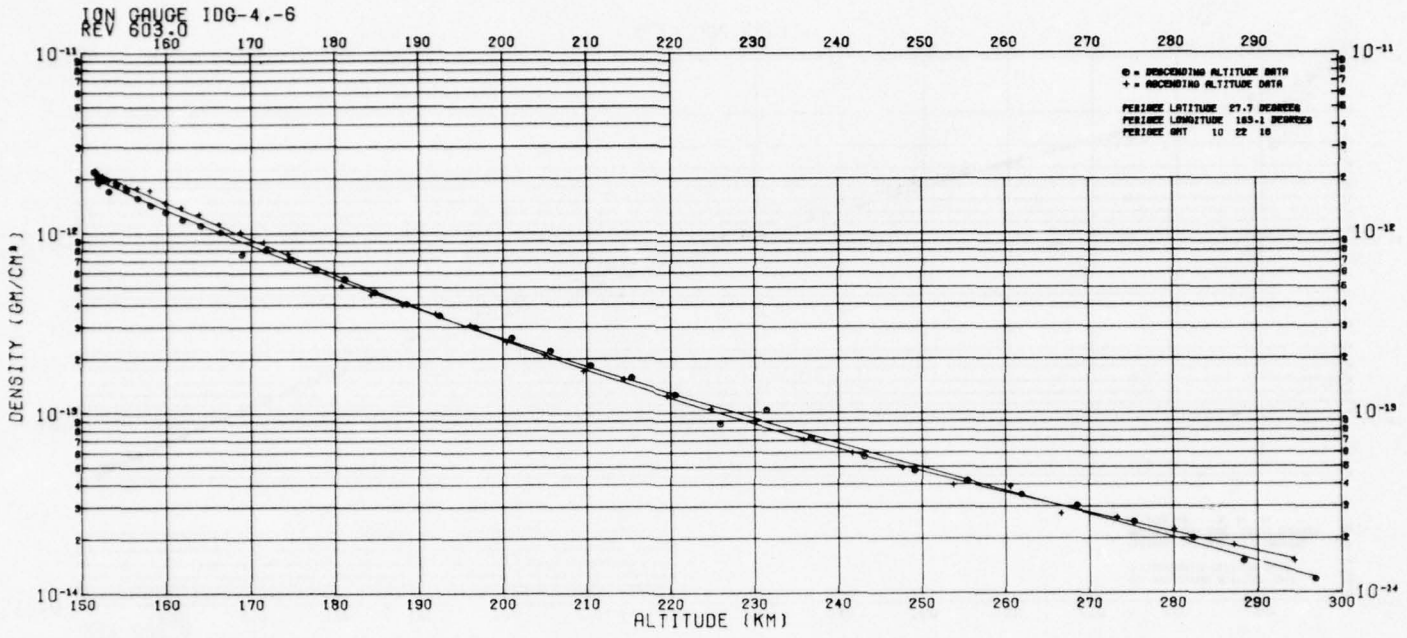

ION GAUGE IDG-4,-6
REV 5950
DENSITY (GM/CM³)
ALTITUDE (KM)

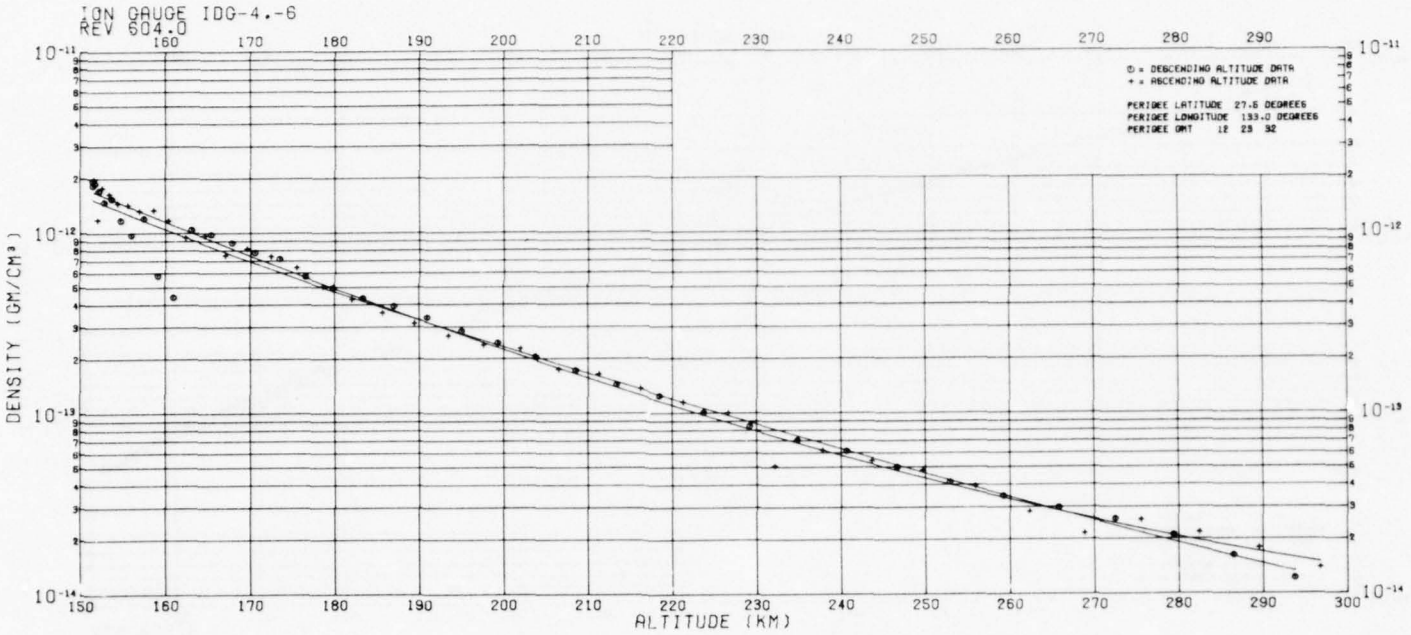

ION GAUGE IDG-4.-6
REV 596.0
⊙ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 28.9 DEGREES
PERIGEE LONGITUDE 19.8 DEGREES
PERIGEE GMT 20 42 38
DENSITY (GM/CM³)
ALTITUDE (KM)

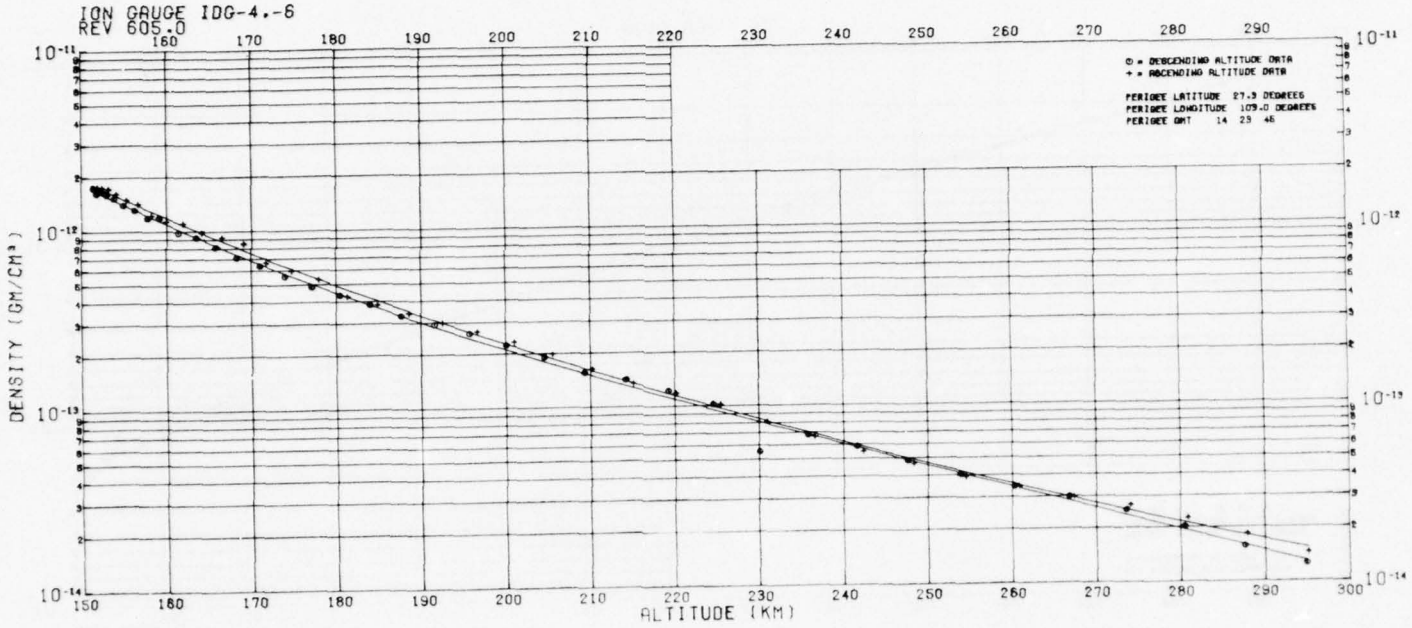

ION GAUGE IDG-4,-6
REV 597.0
○ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 28.7 DEGREES
PERIGEE LONGITUDE 343.6 DEGREES
PERIGEE GMT 22 42 57
DENSITY (GM/CM³)
ALTITUDE (KM)
10⁻¹¹
10⁻¹²
10⁻¹³
10⁻¹⁴
150
160
170
180
190
200
210
220
230
240
250
260
270
280
290
300

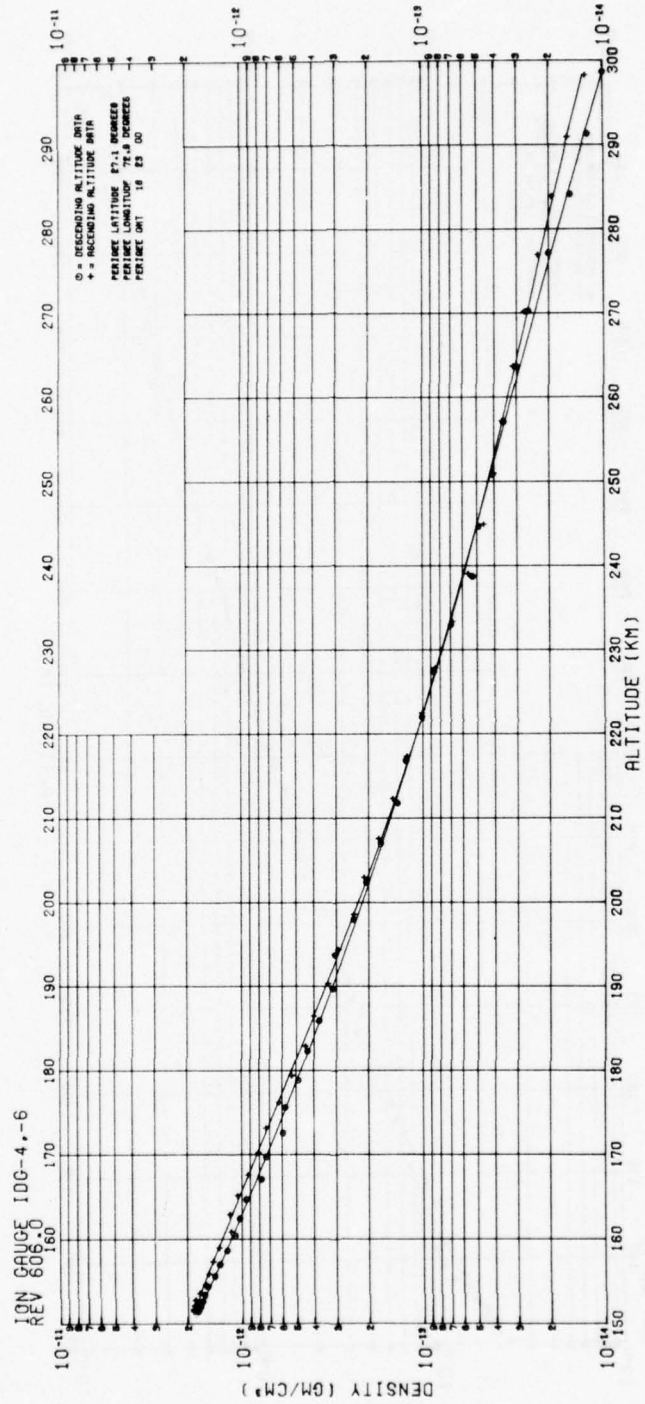

ION GAUGE IDG-4,-6
REV 601.0
DENSITY (GM/CM³)
ALTITUDE (KM)
@ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 28.0 DEGREES
PERIGEE LONGITUDE 229.2 DEGREES
PERIGEE GMT 8 22 51

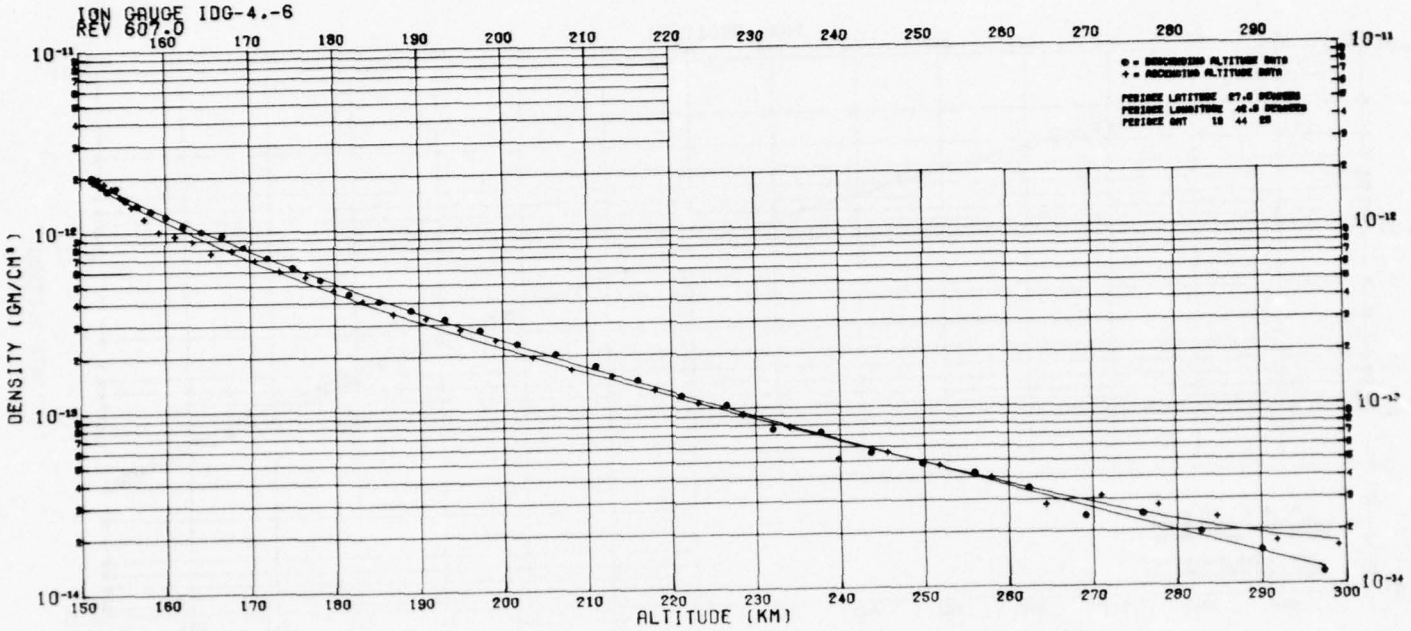

ION GAUGE IDG-4,-6
REV 602.0
⊖ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 27.8 DEGREES
PERIGEE LONGITUDE 193.1 DEGREES
PERIGEE GMT 8 22 01
DENSITY (GM/CM³)
ALTITUDE (KM)
10⁻¹¹
10⁻¹²
10⁻¹³
10⁻¹⁴
150
160
170
180
190
200
210
220
230
240
250
260
270
280
290
300

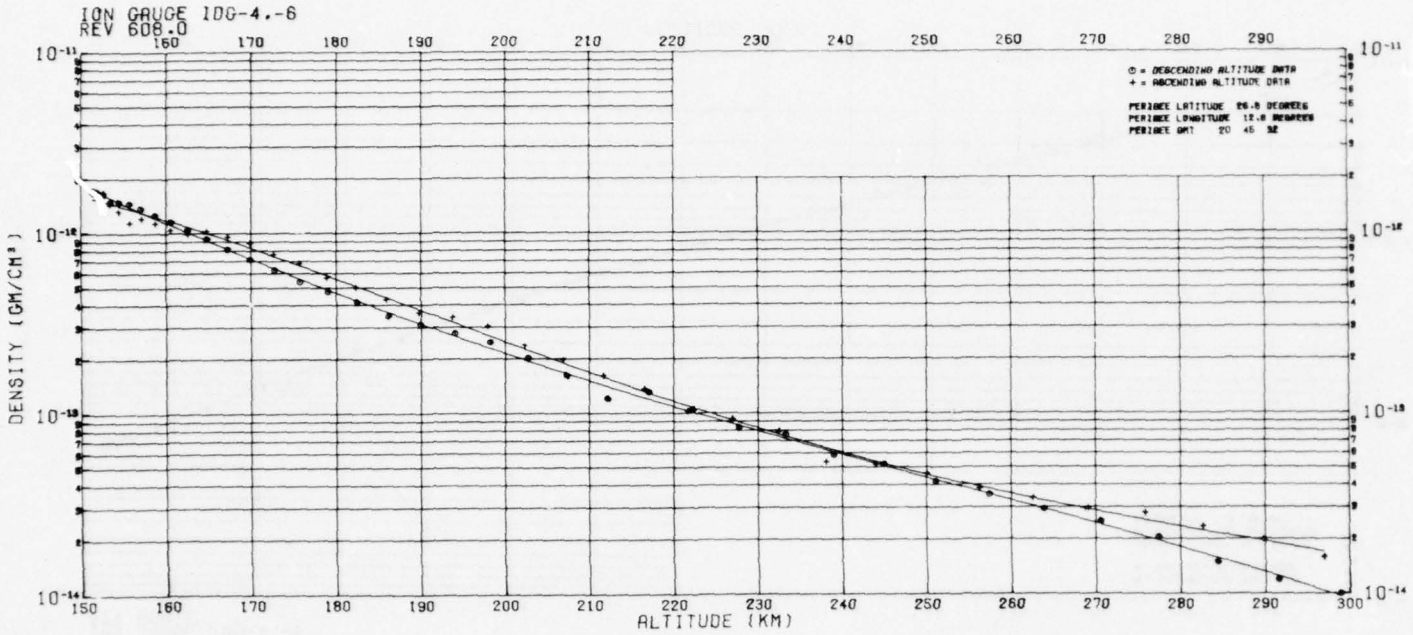

ION GAUGE IDG-4,-6
REV 603.0
DENSITY (GM/CM³)
ALTITUDE (KM)
⊕ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 27.7 DEGREES
PERIGEE LONGITUDE 165.1 DEGREES
PERIGEE GMT 10 22 16

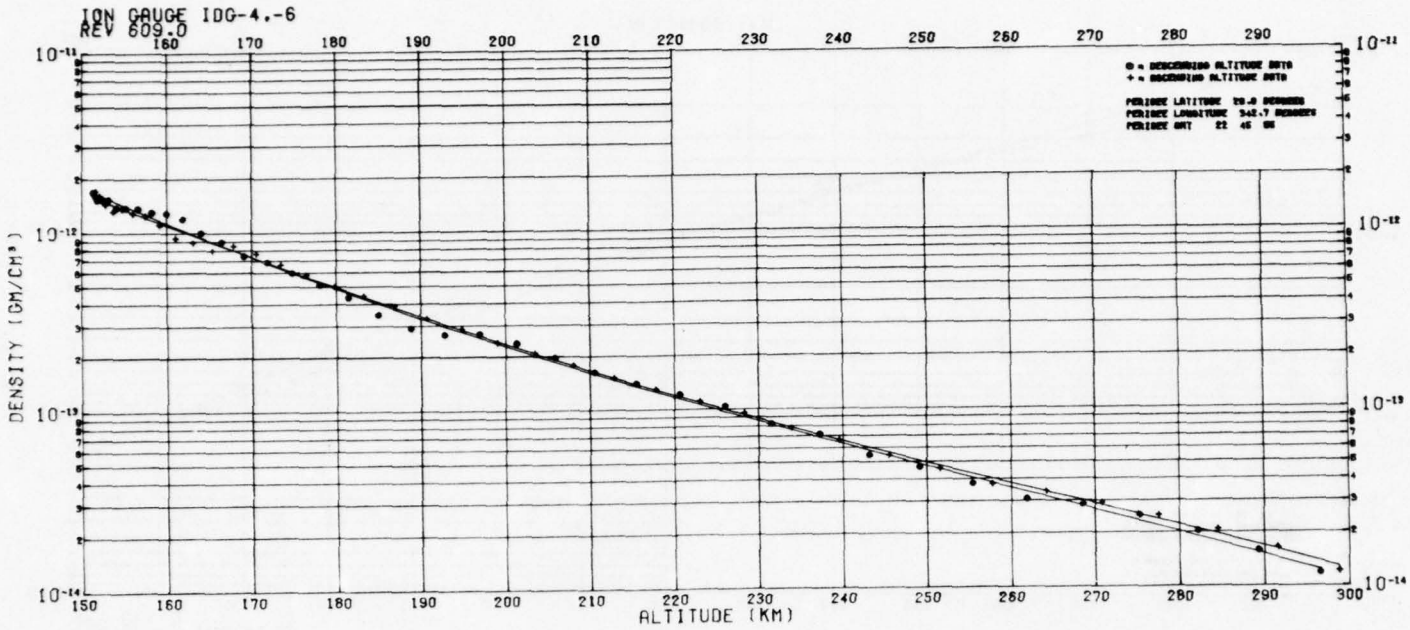

ION GAUGE IDG-4.-6
REV 604.0
⊙ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 27.6 DEGREES
PERIGEE LONGITUDE 133.0 DEGREES
PERIGEE GMT 12 23 32
DENSITY (GM/CM³)
ALTITUDE (KM)

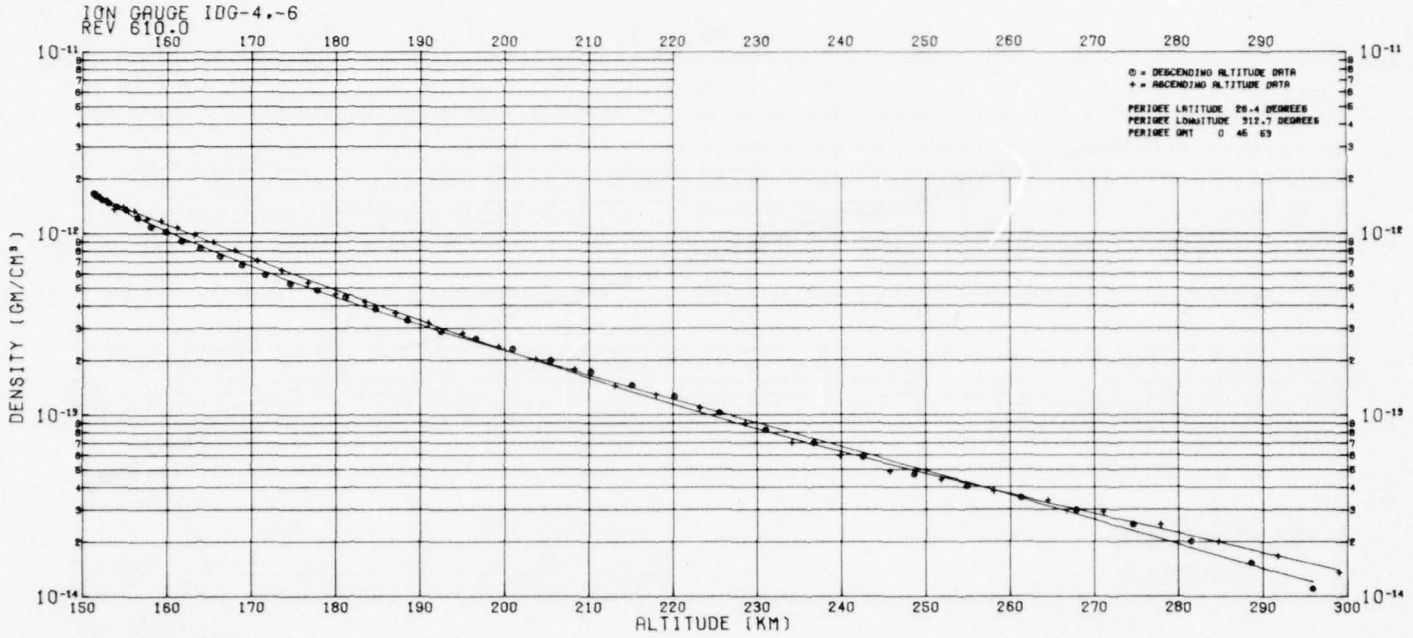

ION GAUGE IDG-4.-6
REV 605.0
⊙ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 27.3 DEGREES
PERIGEE LONGITUDE 109.0 DEGREES
PERIGEE GMT 14 23 46
DENSITY (GM/CM³)
ALTITUDE (KM)

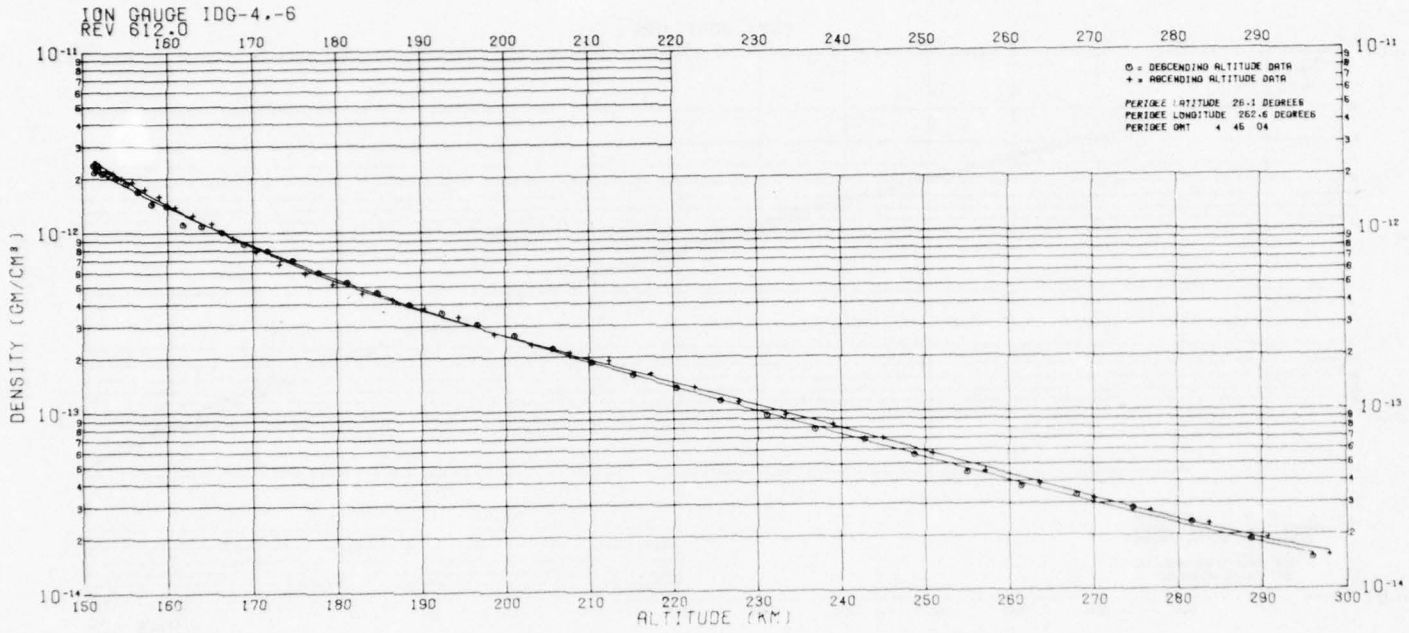

ION GAUGE IDG-4,-6
REV 606.0
DENSITY (GM/CM³)
ALTITUDE (KM)
10-11
10-12
10-13
10-14
150
160
170
180
190
200
210
220
230
240
250
260
270
280
290
300
⊙ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 27.1 DEGREES
PERIGEE LONGITUDE 78.8 DEGREES
PERIGEE GMT 10 23 00

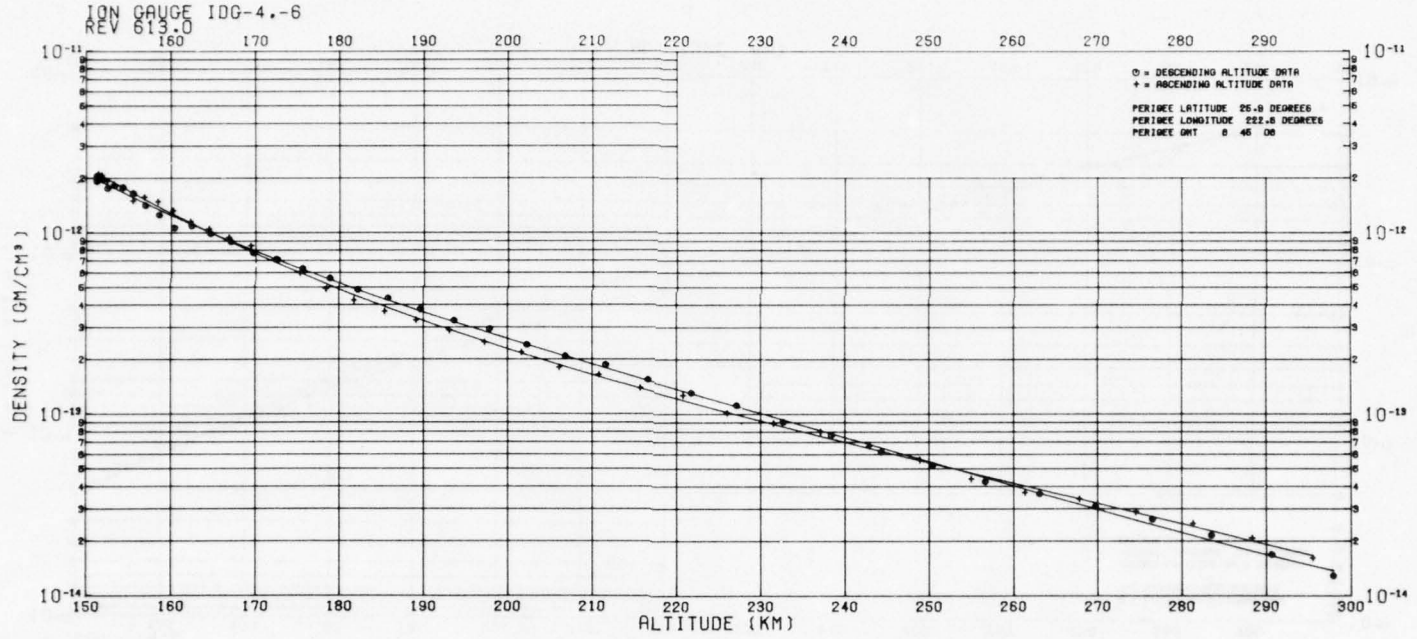

ION GAUGE IDG-4.-6
REV 607.0
DENSITY (GM/CM³)
ALTITUDE (KM)
150
160
170
180
190
200
210
220
230
240
250
260
270
280
290
300

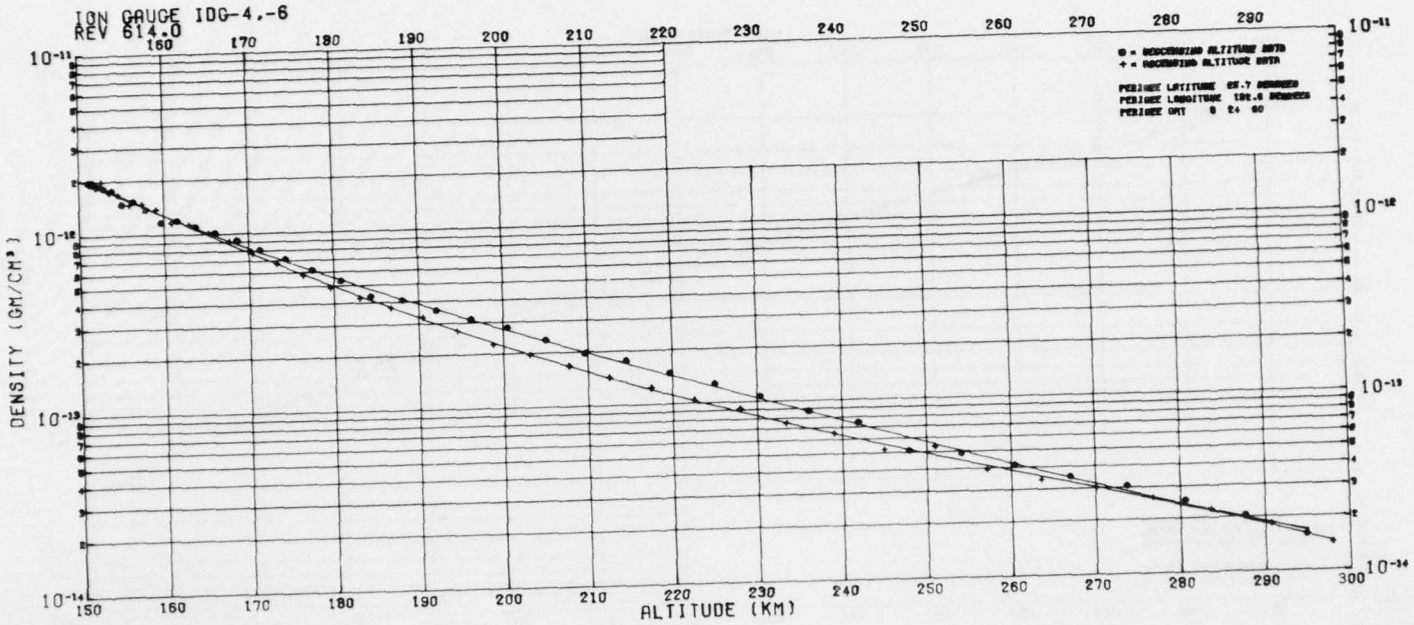

ION GAUGE IDG-4.-6
REV 608.0
DENSITY (GM/CM³)
ALTITUDE (KM)
⊙ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 26.8 DEGREES
PERIGEE LONGITUDE 12.8 DEGREES
PERIGEE GMT 20 45 32

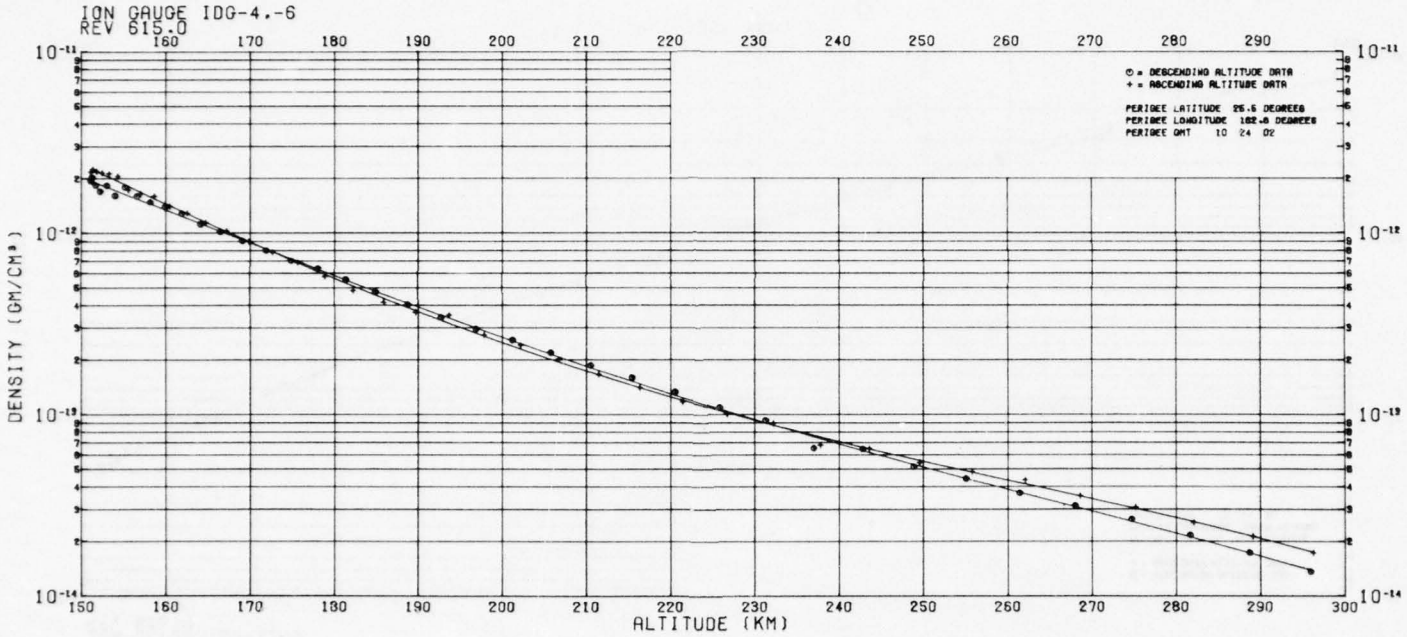

ION GAUGE IDG-4,-6
REV 609.0
DENSITY (GM/CM³)
ALTITUDE (KM)
150
160
170
180
190
200
210
220
230
240
250
260
270
280
290
300
10⁻¹¹
10⁻¹²
10⁻¹³
10⁻¹⁴

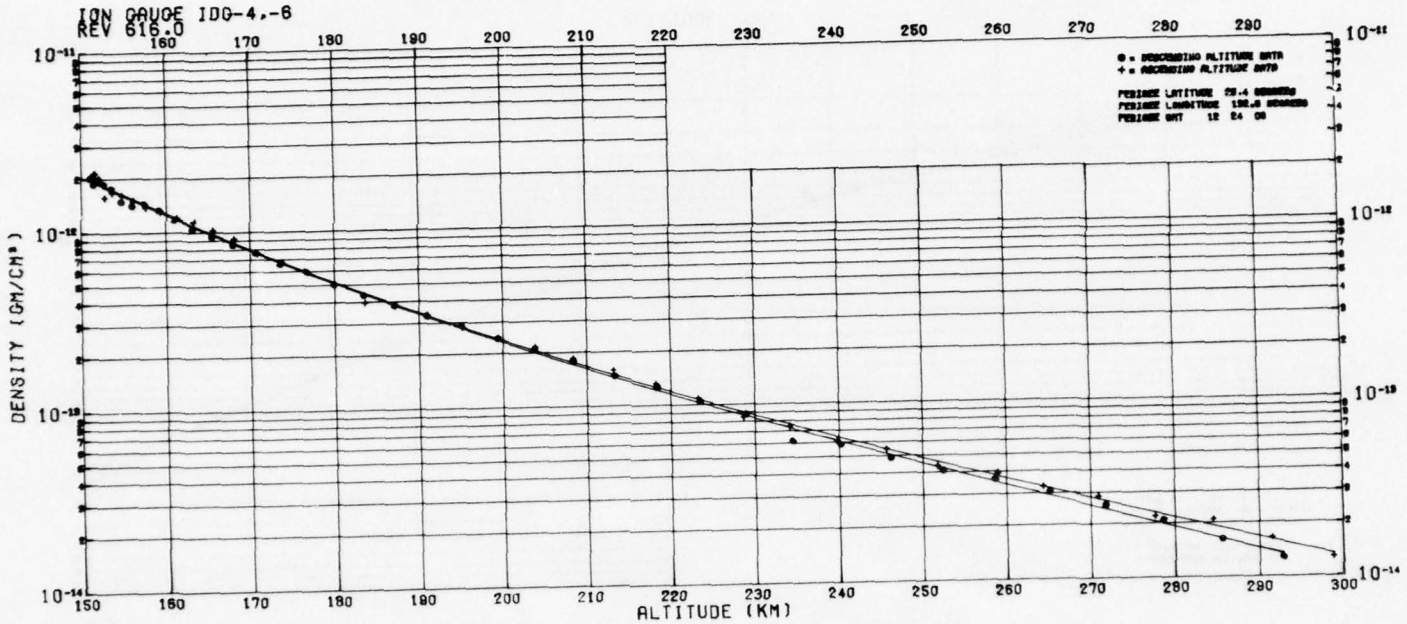

ION GAUGE IDG-4,-6
REV 610.0
© = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 28.4 DEGREES
PERIGEE LONGITUDE 312.7 DEGREES
PERIGEE GMT 0 46 53
DENSITY (GM/CM³)
ALTITUDE (KM)
10⁻¹¹
10⁻¹²
10⁻¹³
10⁻¹⁴
150
160
170
180
190
200
210
220
230
240
250
260
270
280
290
300

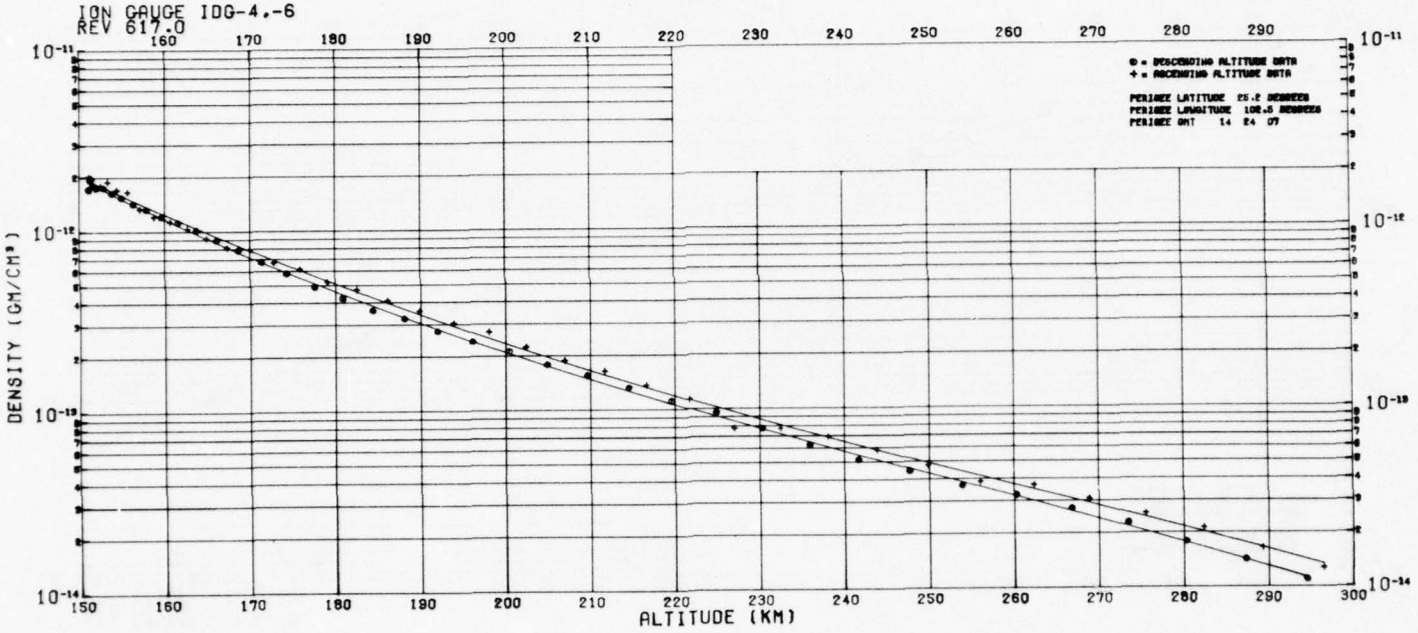

ION GAUGE IDG-4,-6
REV 612.0
⊖ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 28.1 DEGREES
PERIGEE LONGITUDE 262.6 DEGREES
PERIGEE GMT 4 45 04
DENSITY (GM/CM³)
ALTITUDE (KM)

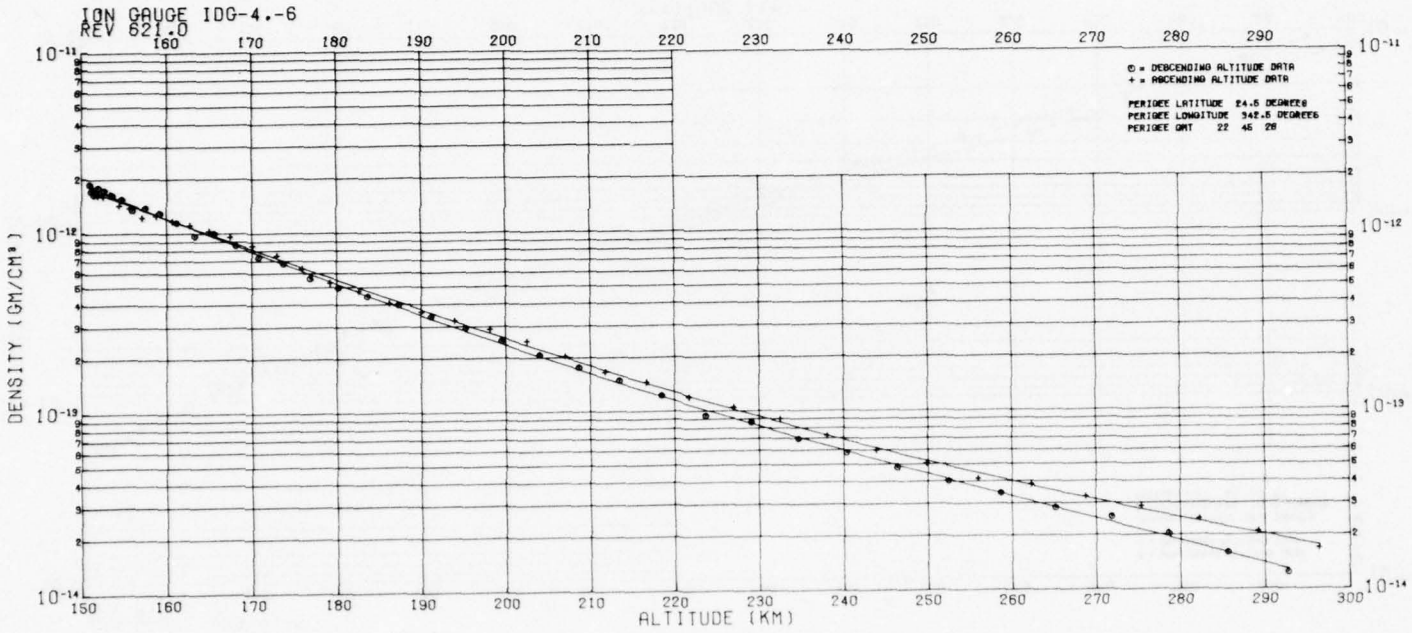

ION GAUGE IDG-4.-6
REV 613.0
⊙ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 25.8 DEGREES
PERIGEE LONGITUDE 222.6 DEGREES
PERIGEE GMT 8 46 08
DENSITY (GM/CM³)
ALTITUDE (KM)

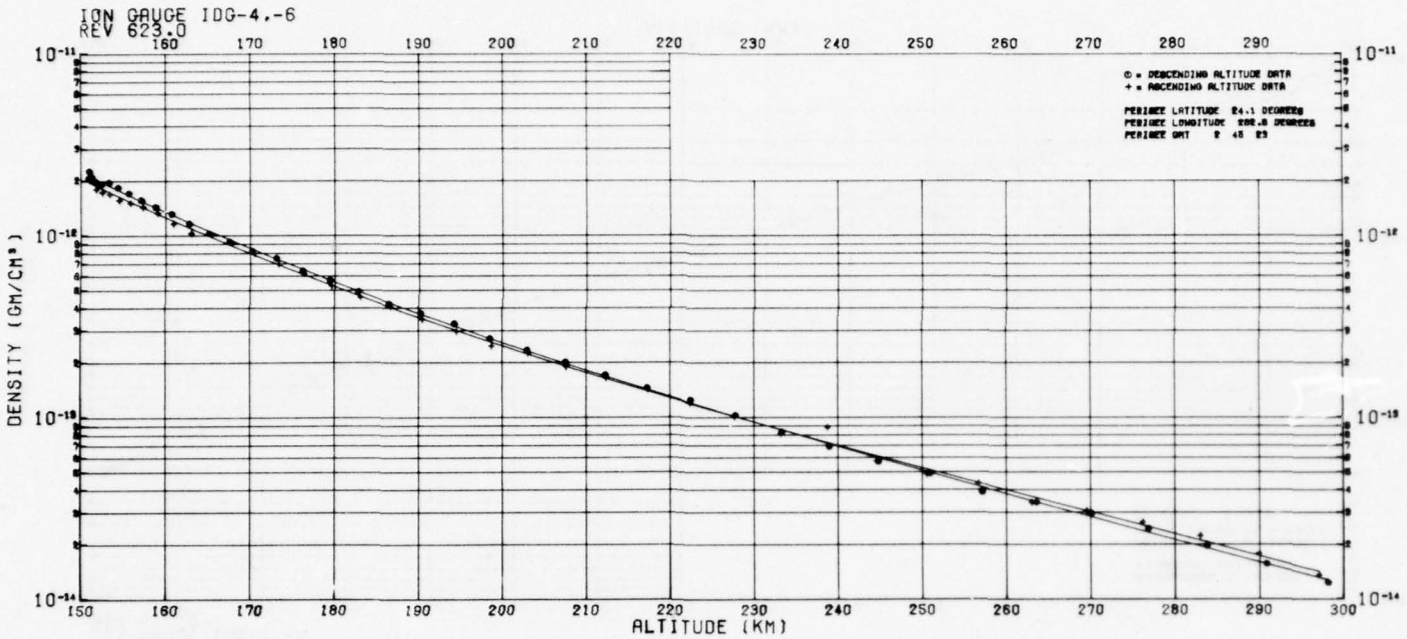

ION GAUGE IDG-4,-6
REV 614.0
DENSITY (GM/CM³)
ALTITUDE (KM)
150
160
170
180
190
200
210
220
230
240
250
260
270
280
290
300
10⁻¹¹
10⁻¹²
10⁻¹³
10⁻¹⁴

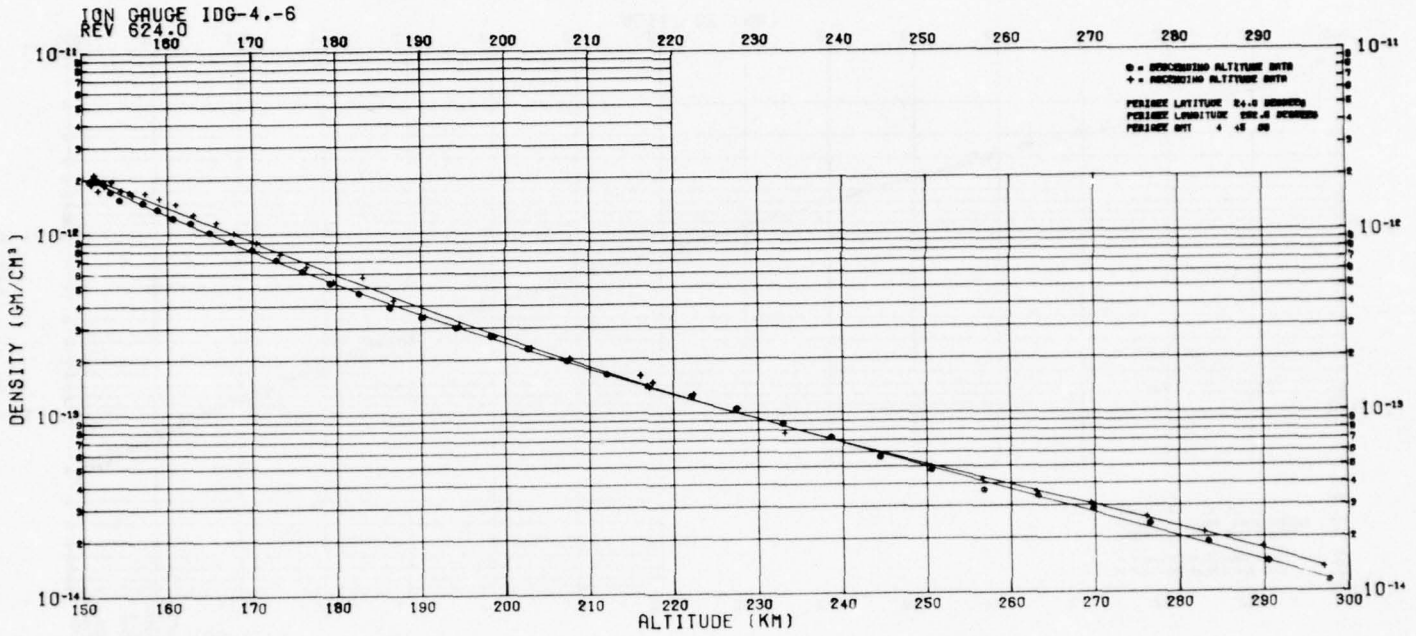

ION GAUGE IDG-4,-6
REV 615.0
© = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 25.6 DEGREES
PERIGEE LONGITUDE 182.6 DEGREES
PERIGEE GMT 10 24 02
DENSITY (GM/CM³)
ALTITUDE (KM)
150
160
170
180
190
200
210
220
230
240
250
260
270
280
290
300
10⁻¹¹
10⁻¹²
10⁻¹³
10⁻¹⁴

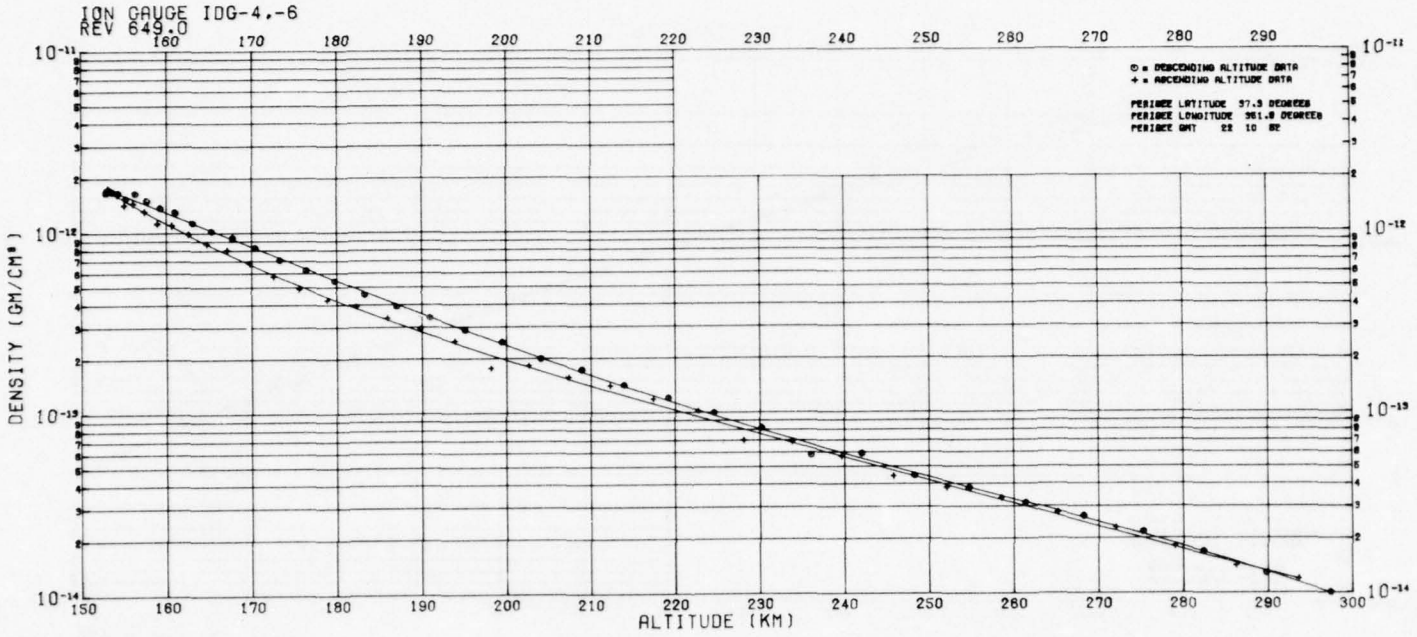

ION GAUGE IDG-4,-6
REV 616.0
DENSITY (GM/CM³)
ALTITUDE (KM)
150
160
170
180
190
200
210
220
230
240
250
260
270
280
290
300
10^{-11}
10^{-12}
10^{-13}
10^{-14}

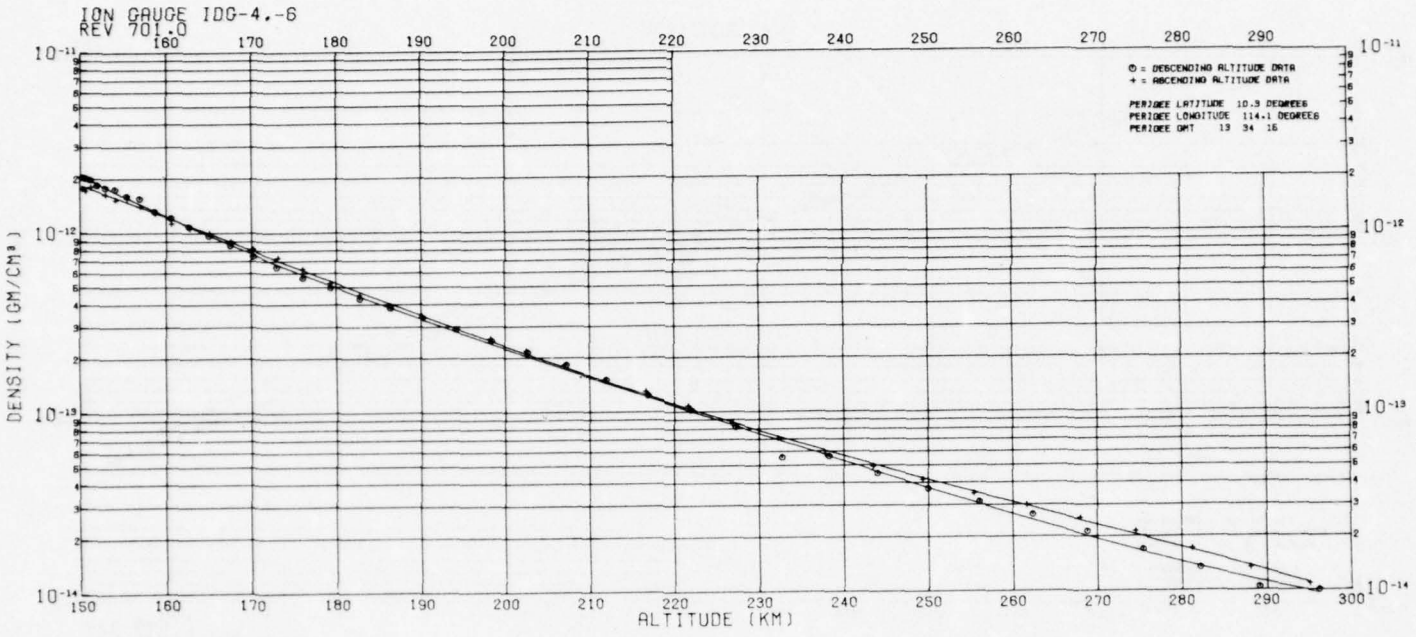

ION GAUGE IDG-4,-6
REV 617.0
⊕ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 25.2 DEGREES
PERIGEE LONGITUDE 102.5 DEGREES
PERIGEE GMT 14 24 07
DENSITY (GM/CM³)
ALTITUDE (KM)
10⁻¹¹
10⁻¹²
10⁻¹³
10⁻¹⁴
150
160
170
180
190
200
210
220
230
240
250
260
270
280
290
300

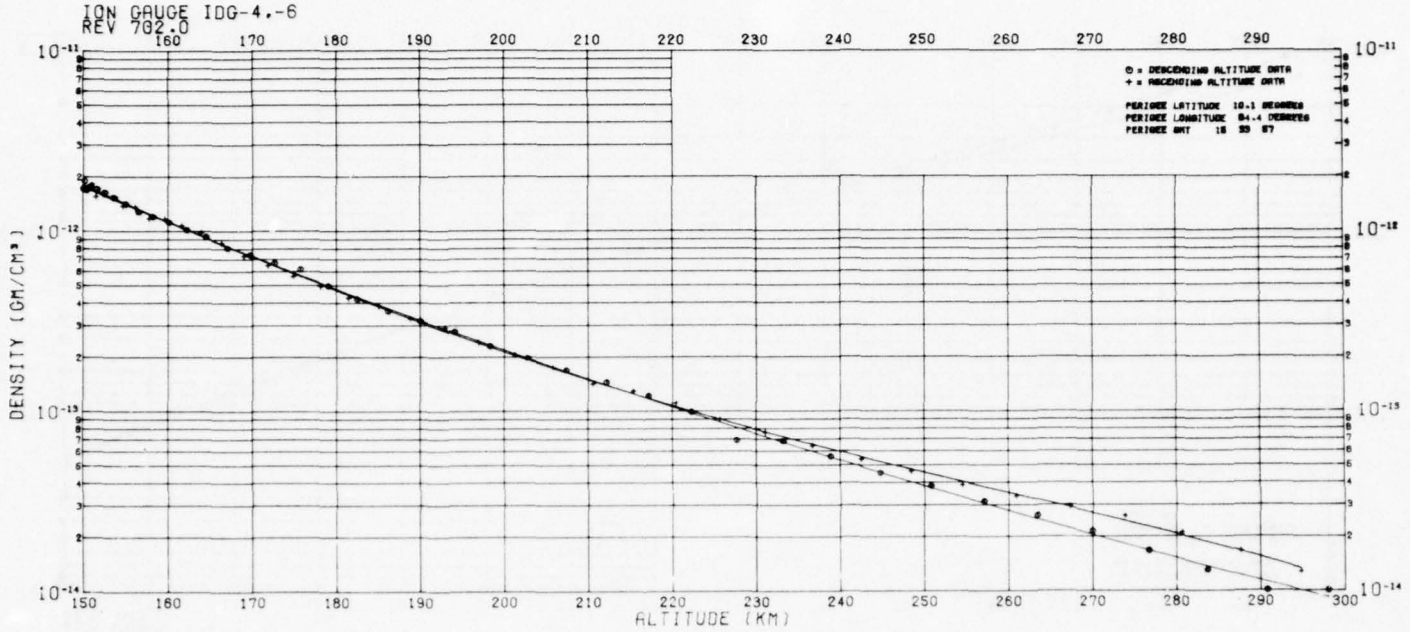

ION GAUGE IDG-4.-6
REV 621.0
© = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 24.5 DEGREES
PERIGEE LONGITUDE 342.5 DEGREES
PERIGEE GMT 22 45 28
DENSITY (GM/CM³)
ALTITUDE (KM)

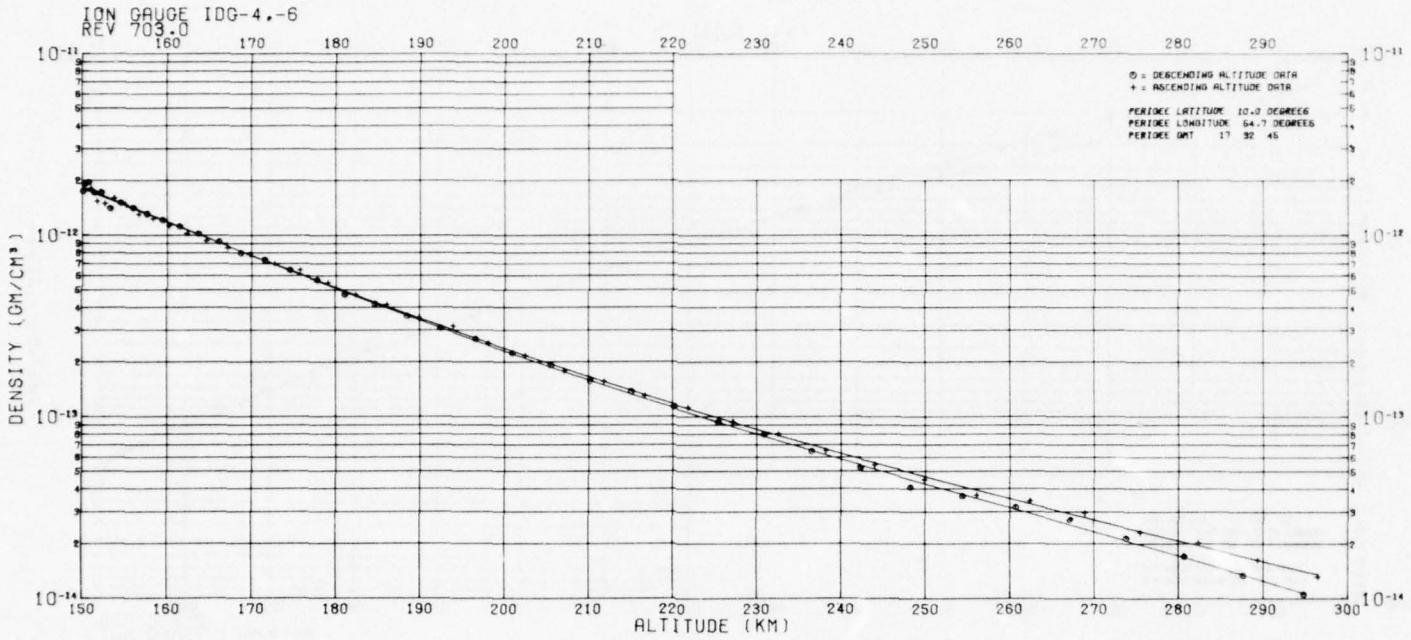

ION GAUGE IDG-4,-6
REV 623.0
© = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 64.1 DEGREES
PERIGEE LONGITUDE 208.8 DEGREES
PERIGEE GMT 2 48 23
DENSITY (GM/CM³)
ALTITUDE (KM)
10⁻¹¹
10⁻¹²
10⁻¹³
10⁻¹⁴
150
160
170
180
190
200
210
220
230
240
250
260
270
280
290
300


ION GAUGE IDG-4.-6
REV 624.0
DENSITY (GM/CM³)
ALTITUDE (KM)
150
160
170
180
190
200
210
220
230
240
250
260
270
280
290
300
10⁻¹¹
10⁻¹²
10⁻¹³
10⁻¹⁴

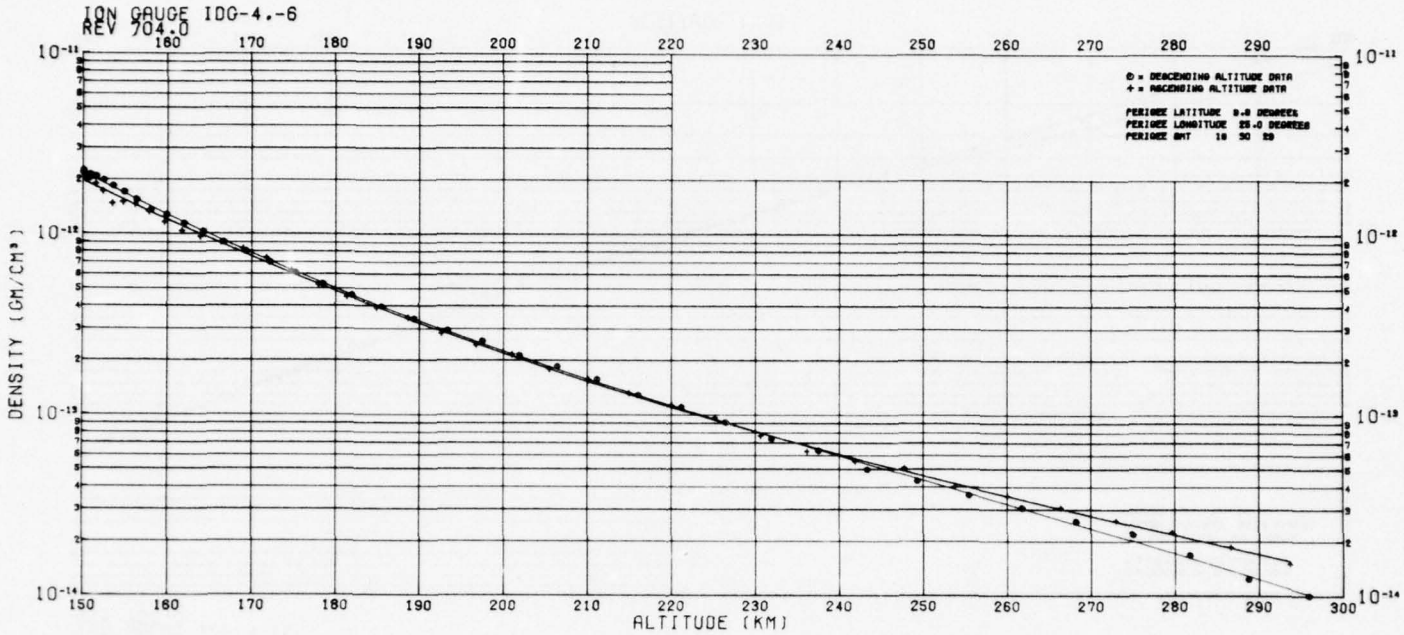

ION GAUGE IDG-4,-6
REV 649.0
DENSITY (GM/CM³)
ALTITUDE (KM)
150
160
170
180
190
200
210
220
230
240
250
260
270
280
290
300
10⁻¹¹
10⁻¹²
10⁻¹³
10⁻¹⁴
⊙ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 97.3 DEGREES
PERIGEE LONGITUDE 361.8 DEGREES
PERIGEE GMT 22 10 52

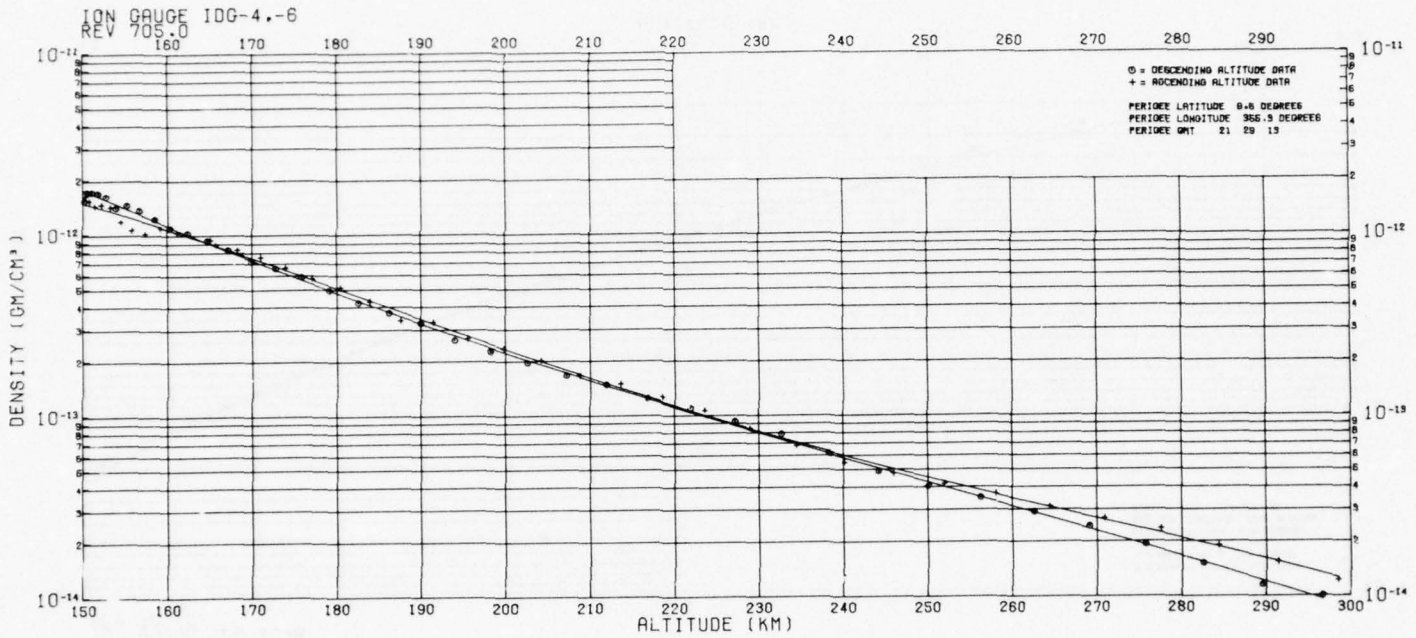

ION GAUGE IDG-4.-6
REV 701.0
⊙ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 10.3 DEGREES
PERIGEE LONGITUDE 114.1 DEGREES
PERIGEE GMT 13 34 16
DENSITY (GM/CM³)
ALTITUDE (KM)

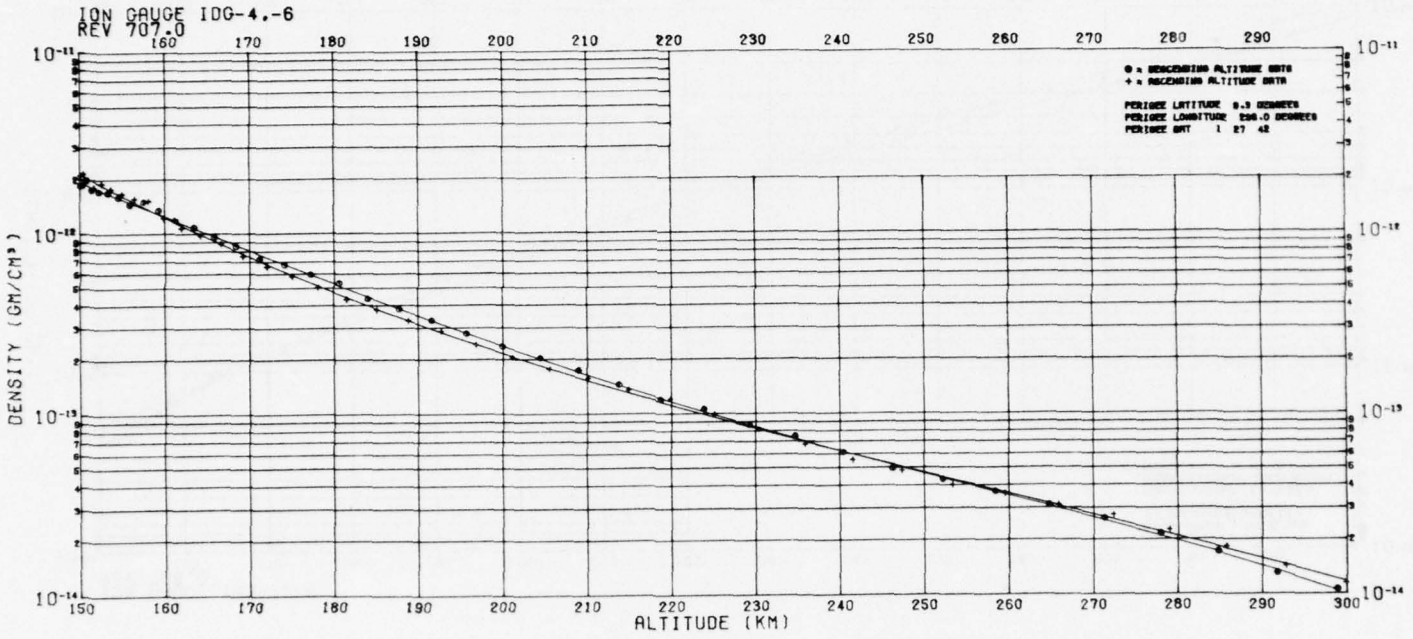

ION GAUGE IDG-4,-6
REV 702.0
DENSITY (GM/CM³)
ALTITUDE (KM)
⊙ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 18.1 DEGREES
PERIGEE LONGITUDE 84.4 DEGREES
PERIGEE GMT 18 39 57

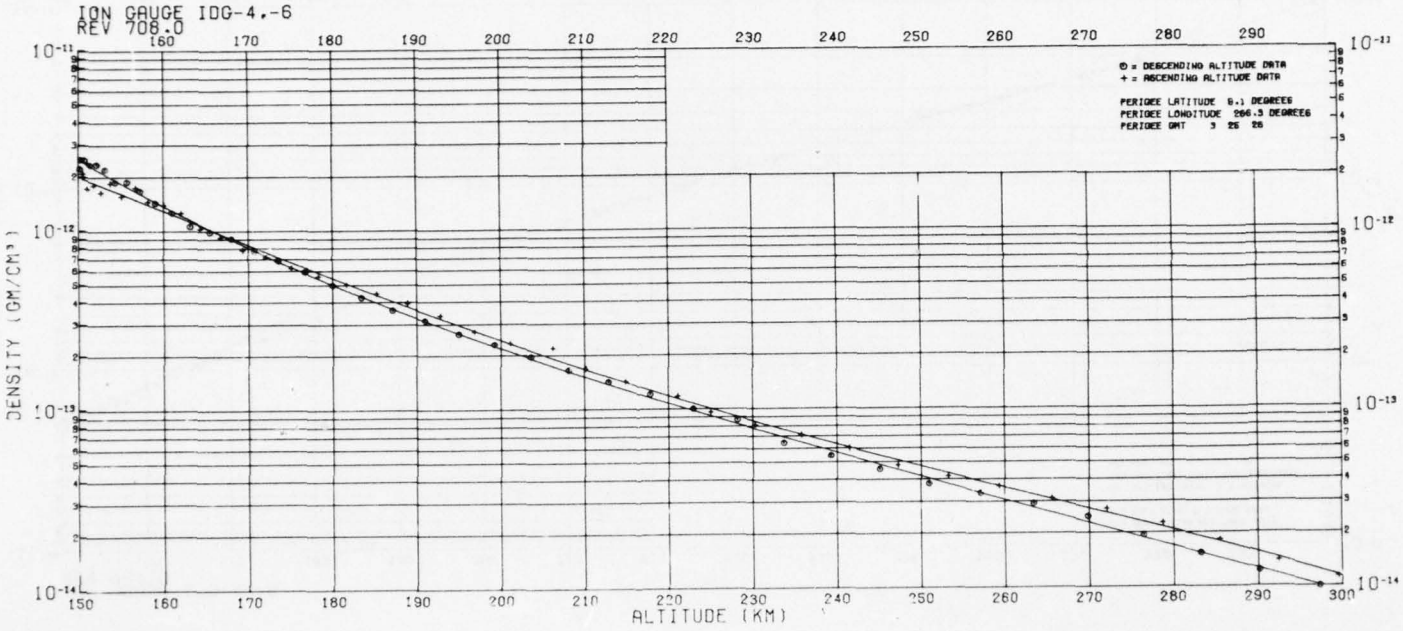

ION GAUGE IDG-4,-6
REV 703.0
⊖ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 10.0 DEGREES
PERIGEE LONGITUDE 64.7 DEGREES
PERIGEE GMT 17 32 46
DENSITY (GM/CM³)
ALTITUDE (KM)
150
160
170
180
190
200
210
220
230
240
250
260
270
280
290
300
10⁻¹¹
10⁻¹²
10⁻¹³
10⁻¹⁴

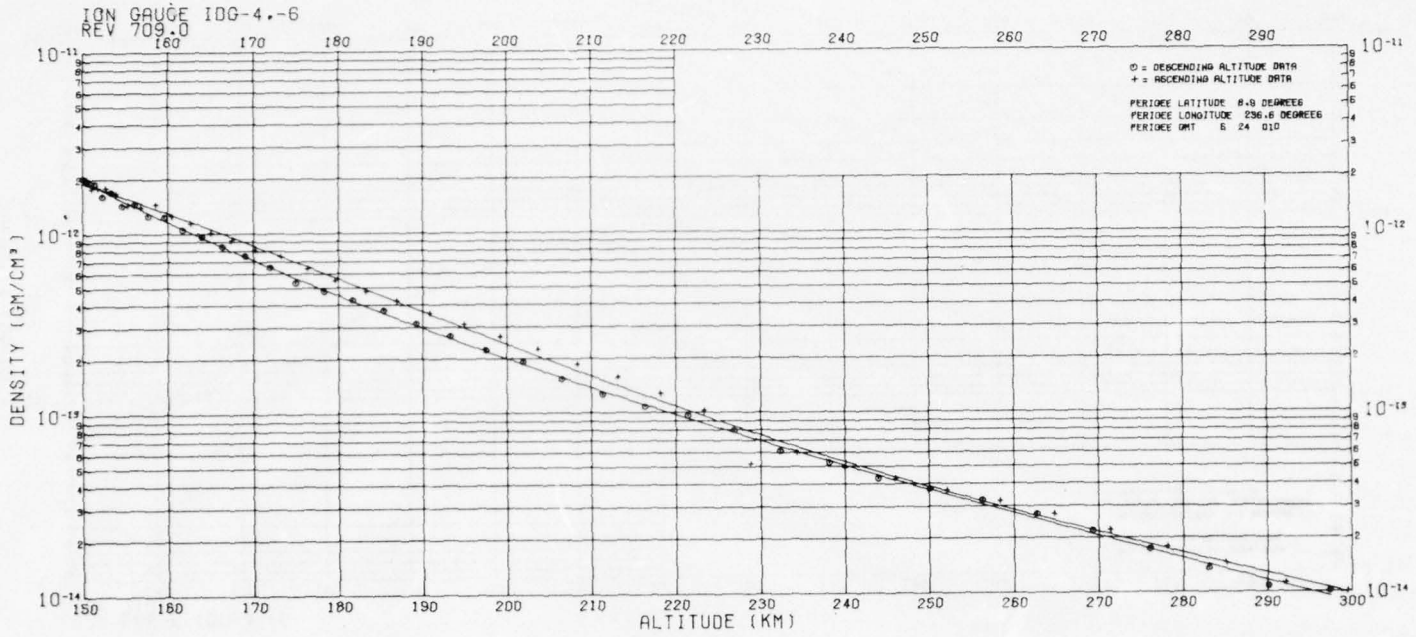
175

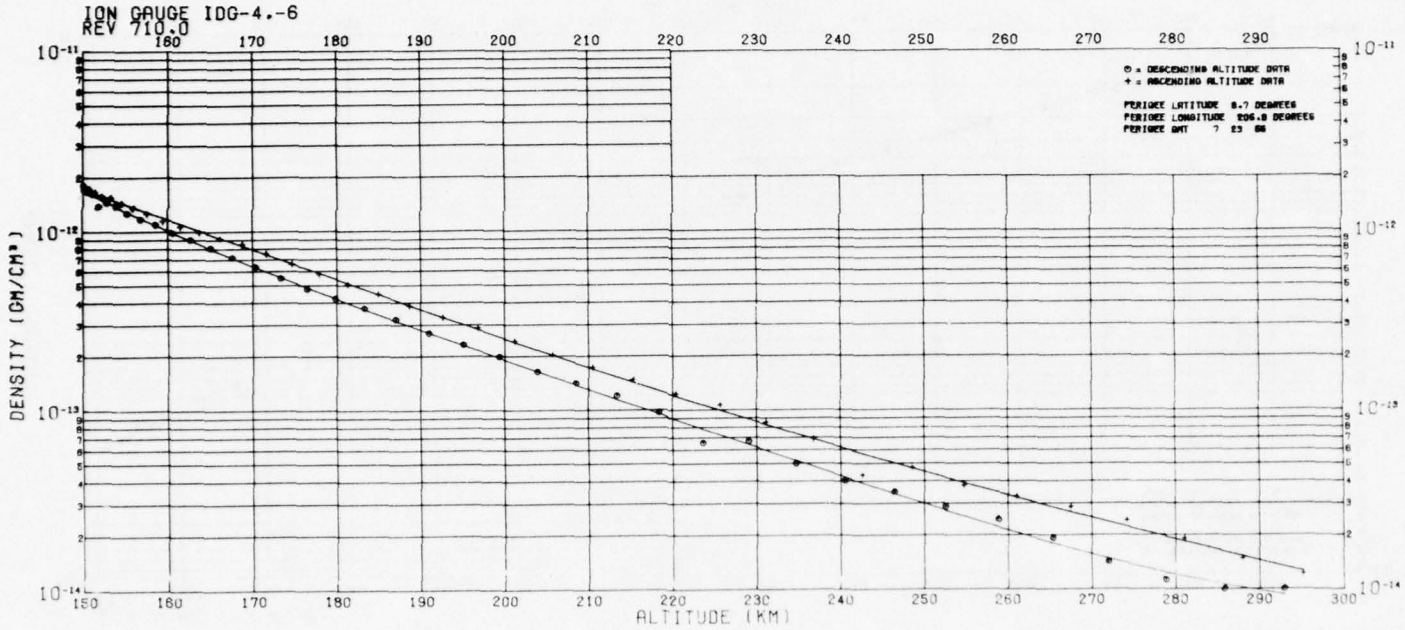

ION GAUGE IDG-4.-6
REV 704.0
⊙ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 9.0 DEGREES
PERIGEE LONGITUDE 25.0 DEGREES
PERIGEE GMT 18 30 29
DENSITY (GM/CM³)
ALTITUDE (KM)
10⁻¹¹
10⁻¹²
10⁻¹³
10⁻¹⁴
150
160
170
180
190
200
210
220
230
240
250
260
270
280
290
300

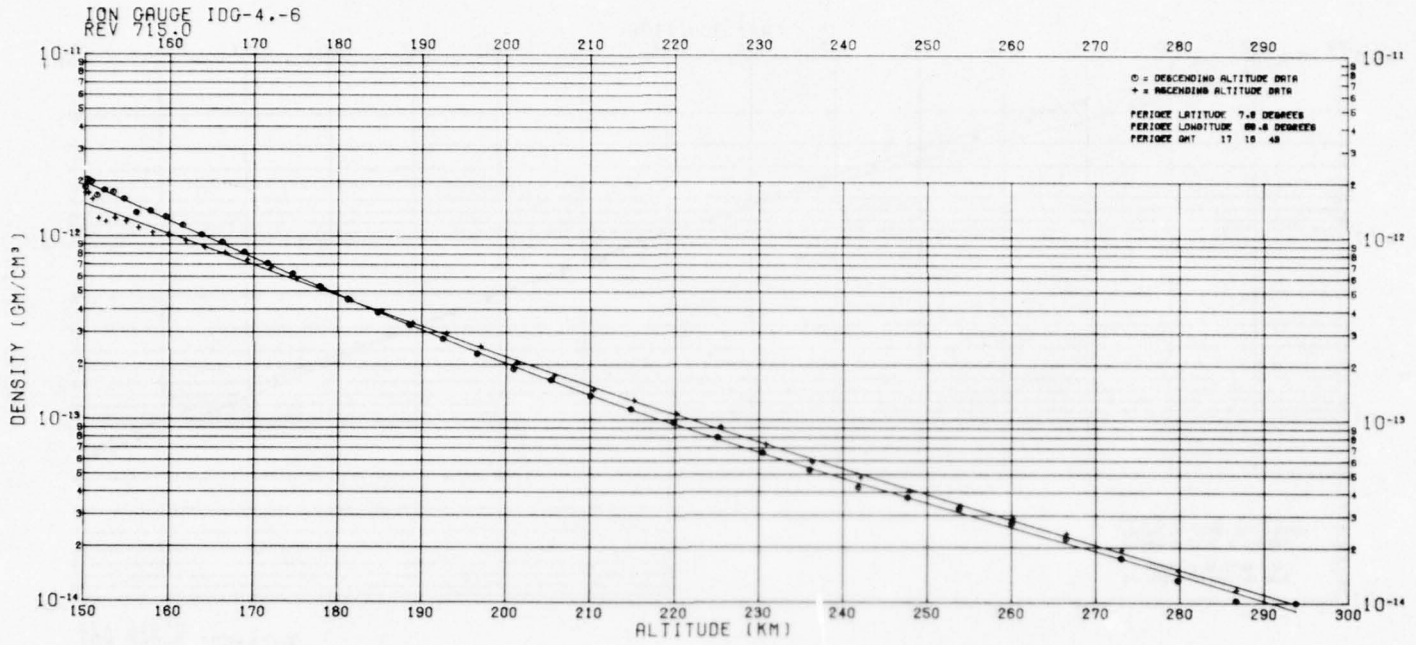

ION GAUGE IDG-4,-6
REV 705.0
⊖ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 0.6 DEGREES
PERIGEE LONGITUDE 355.5 DEGREES
PERIGEE GMT 21 29 13
DENSITY (GM/CM³)
ALTITUDE (KM)

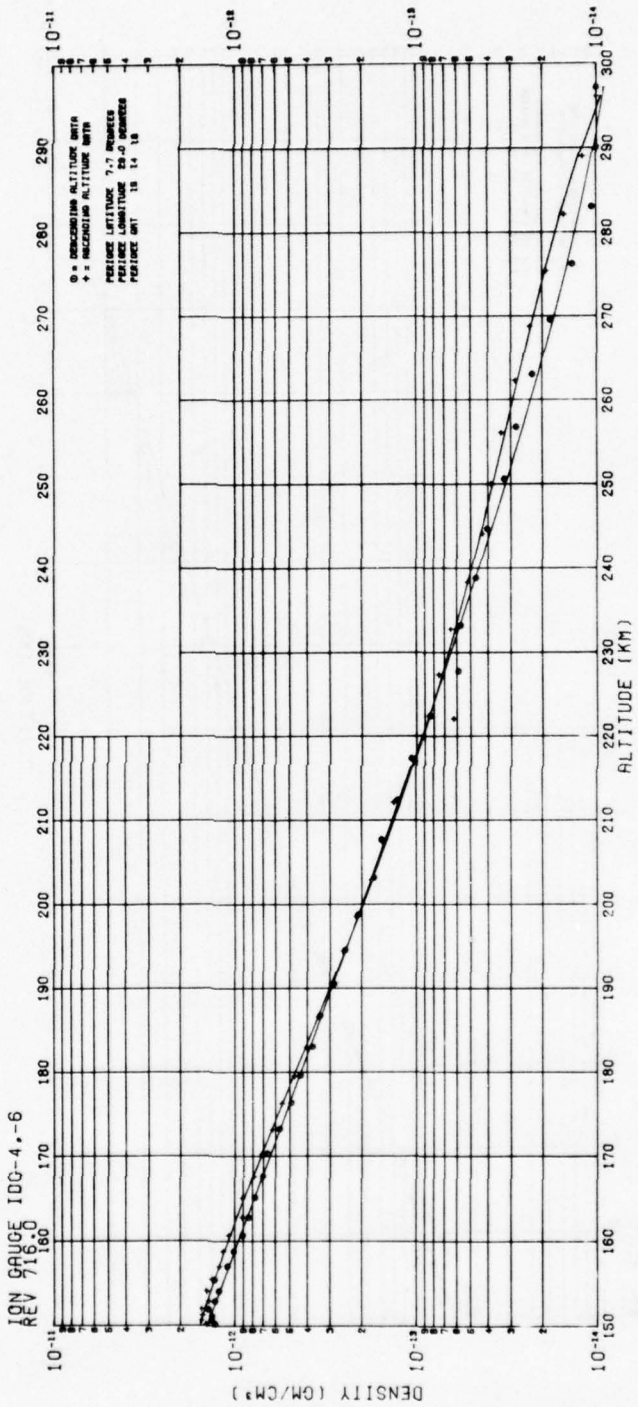

ION GAUGE IDG-4.-6
REV 707.0
DENSITY (GM/CM³)
ALTITUDE (KM)
150
160
170
180
190
200
210
220
230
240
250
260
270
280
290
300
10⁻¹¹
10⁻¹²
10⁻¹³
10⁻¹⁴
PERIGEE LATITUDE 8.3 DEGREES
PERIGEE LONGITUDE 256.0 DEGREES
PERIGEE GMT 1 27 42

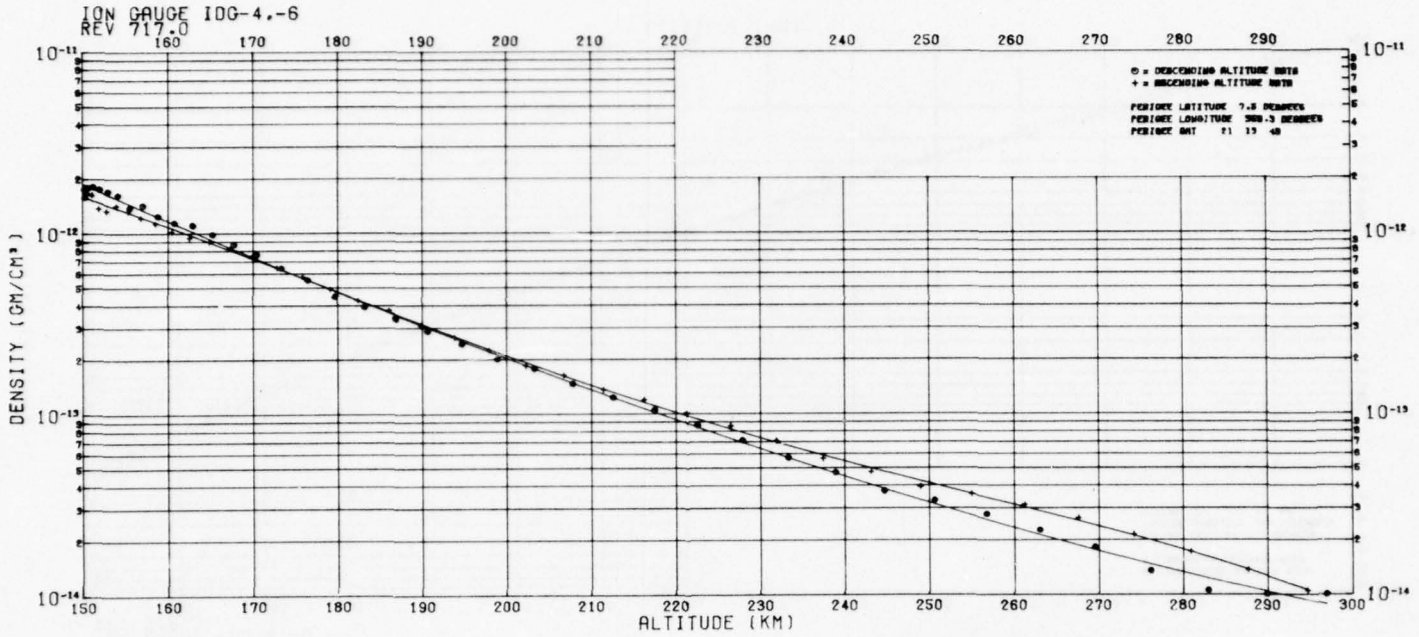

ION GAUGE IDG-4,-6
REV 708.0
⊙ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 8.1 DEGREES
PERIGEE LONGITUDE 266.3 DEGREES
PERIGEE GMT 3 25 26
DENSITY (GM/CM³)
ALTITUDE (KM)

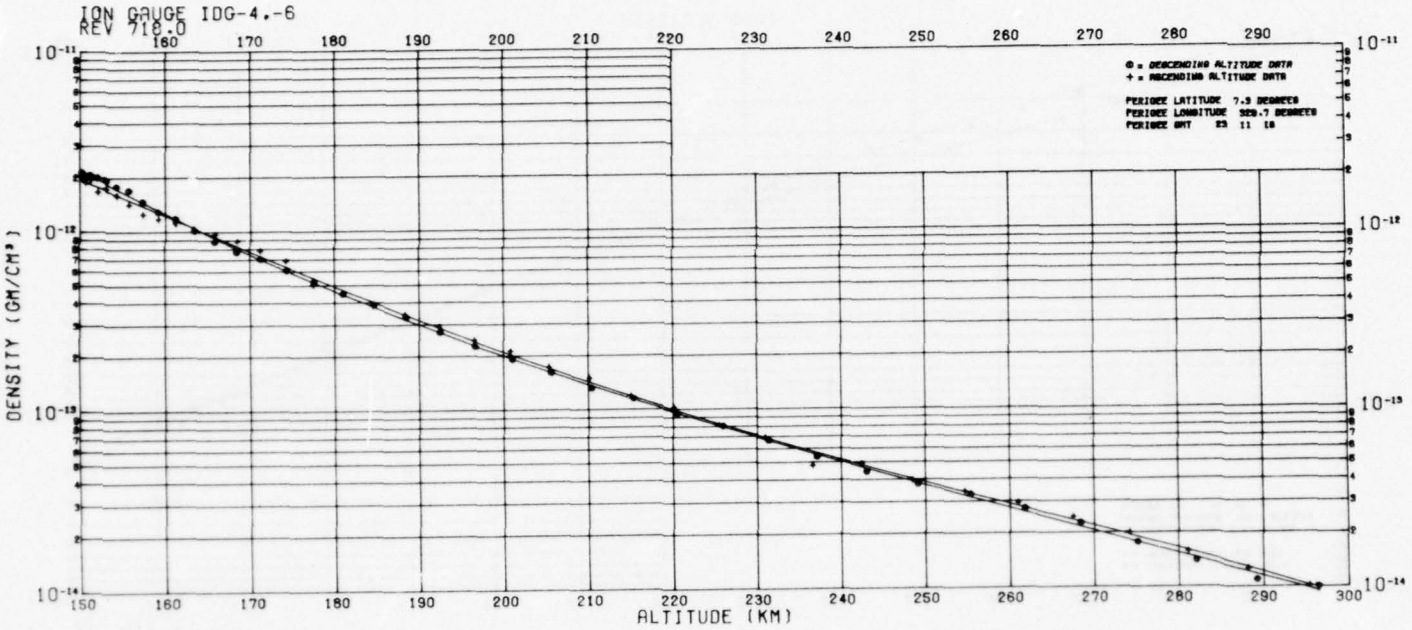

ION GAUGE IDG-4.-6
REV 709.0
© = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 8.9 DEGREES
PERIGEE LONGITUDE 236.6 DEGREES
PERIGEE GMT 6 24 010
DENSITY (GM/CM³)
ALTITUDE (KM)
10⁻¹¹
10⁻¹²
10⁻¹³
10⁻¹⁴
150
160
170
180
190
200
210
220
230
240
250
260
270
280
290
300

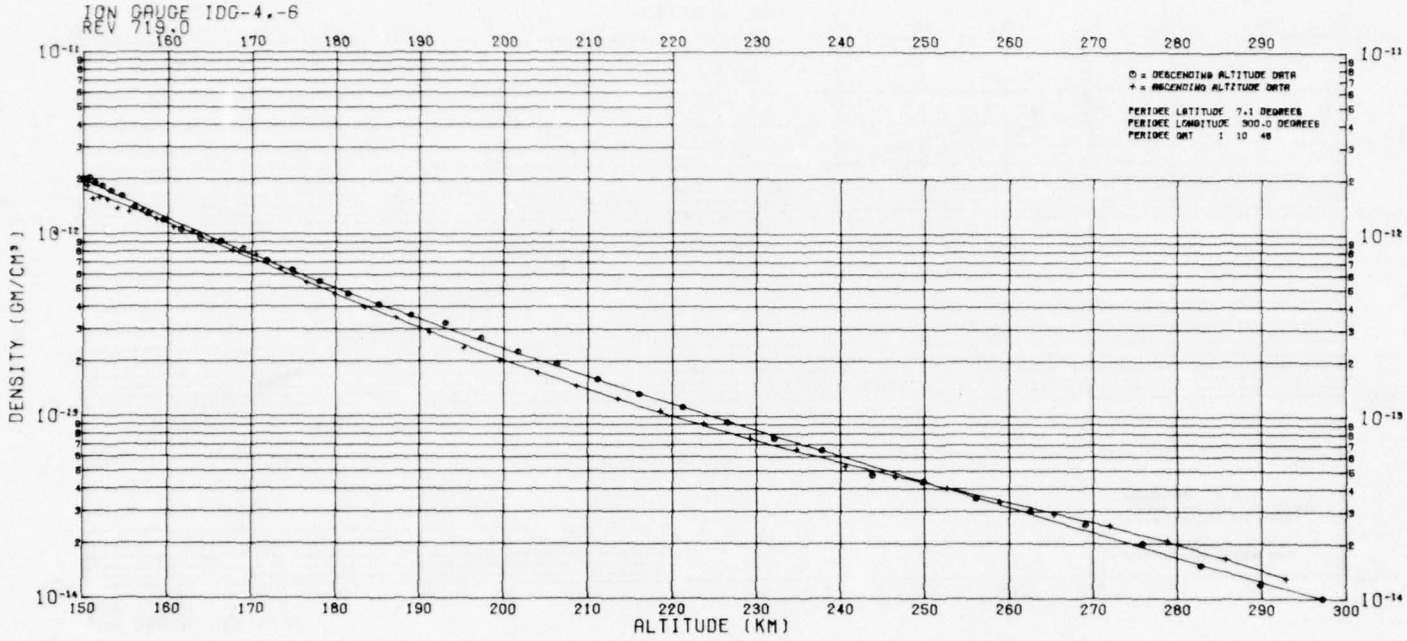

ION GAUGE IDG-4.-6
REV 710.0
DENSITY (GM/CM³)
ALTITUDE (KM)
⊙ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 8.7 DEGREES
PERIGEE LONGITUDE 206.8 DEGREES
PERIGEE GMT ? 23 06

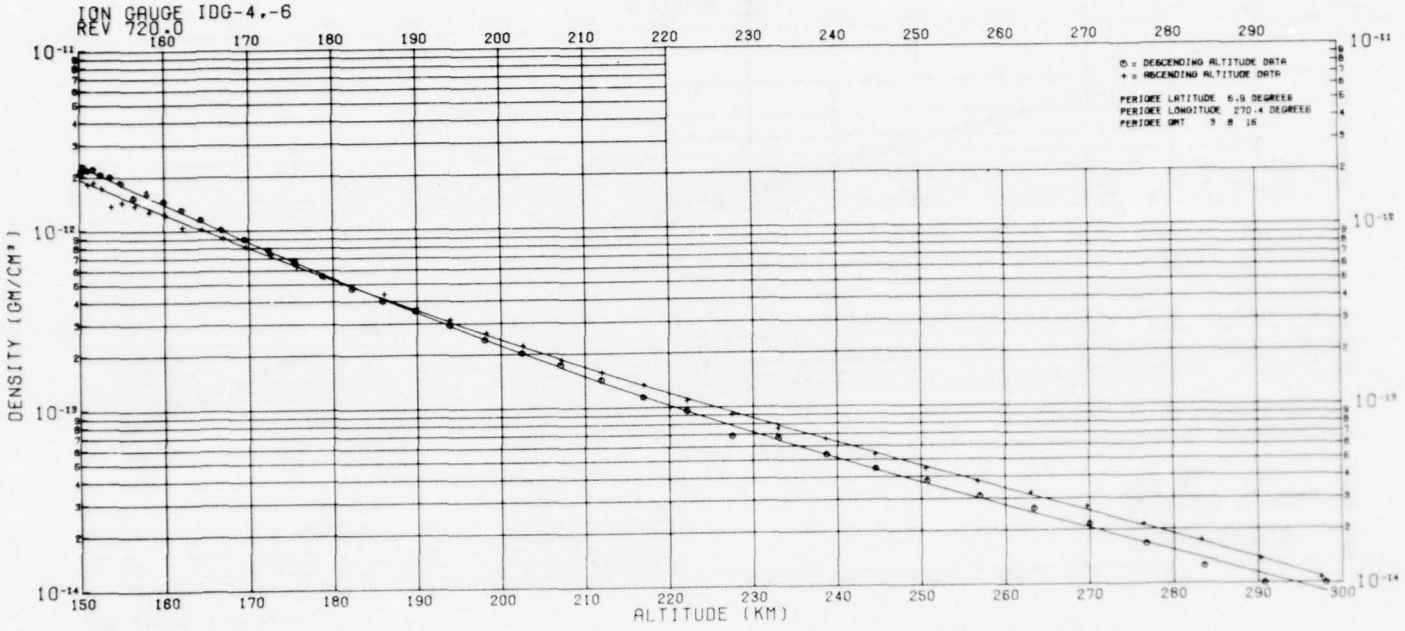

ION GAUGE IDG-4.-6
REV 715.0
DENSITY (GM/CM³)
ALTITUDE (KM)
150
160
170
180
190
200
210
220
230
240
250
260
270
280
290
300
10⁻¹¹
10⁻¹²
10⁻¹³
10⁻¹⁴
© = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 7.8 DEGREES
PERIGEE LONGITUDE 89.8 DEGREES
PERIGEE GMT 17 16 48

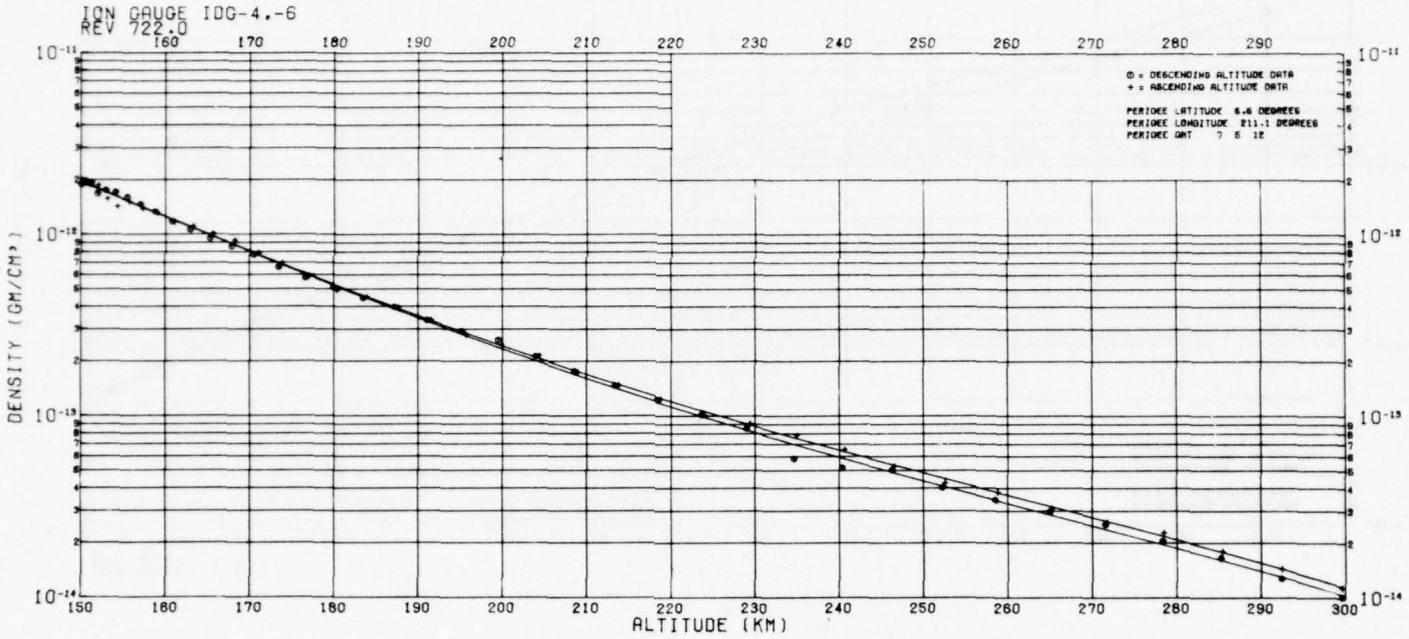

ION GAUGE IDG-4,-6
REV 716.0
DENSITY (GM/CM³)
ALTITUDE (KM)
O = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 7.7 DEGREES
PERIGEE LONGITUDE 29.0 DEGREES
PERIGEE GMT 18 14 18

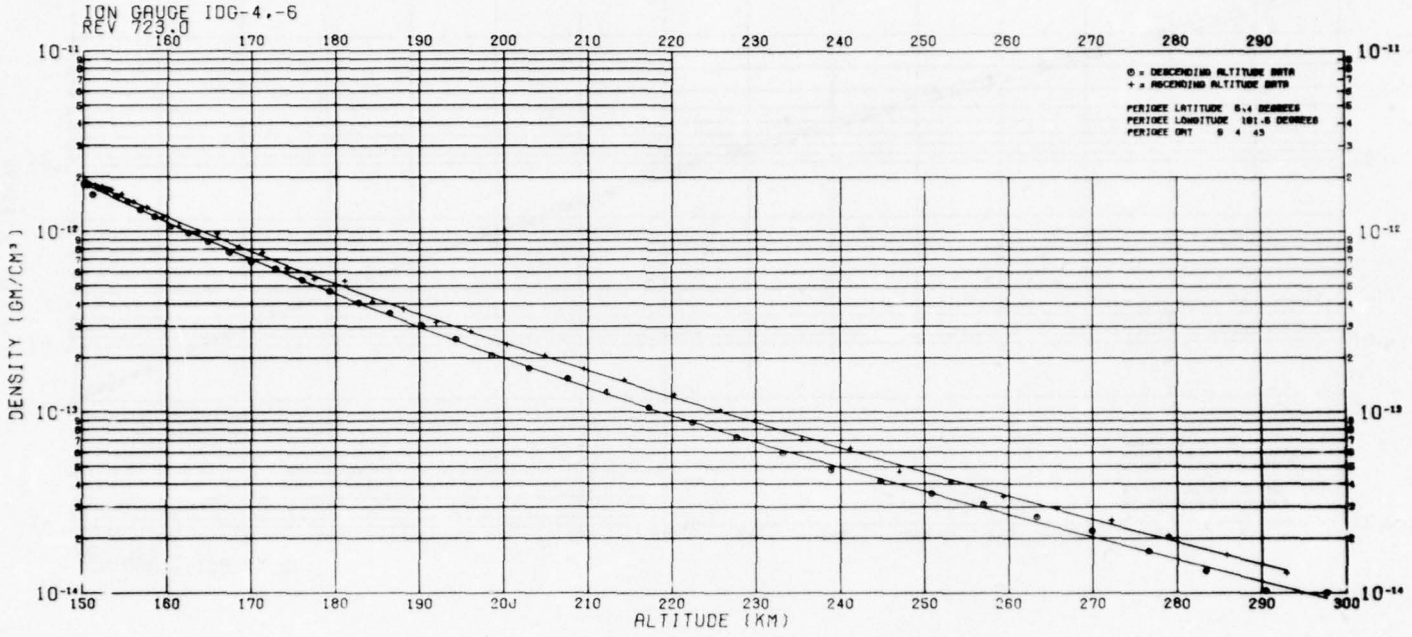

ION GAUGE IDG-4,-6
REV 717.0
DENSITY (GM/CM³)
ALTITUDE (KM)
150
160
170
180
190
200
210
220
230
240
250
260
270
280
290
300
10⁻¹¹
10⁻¹²
10⁻¹³
10⁻¹⁴

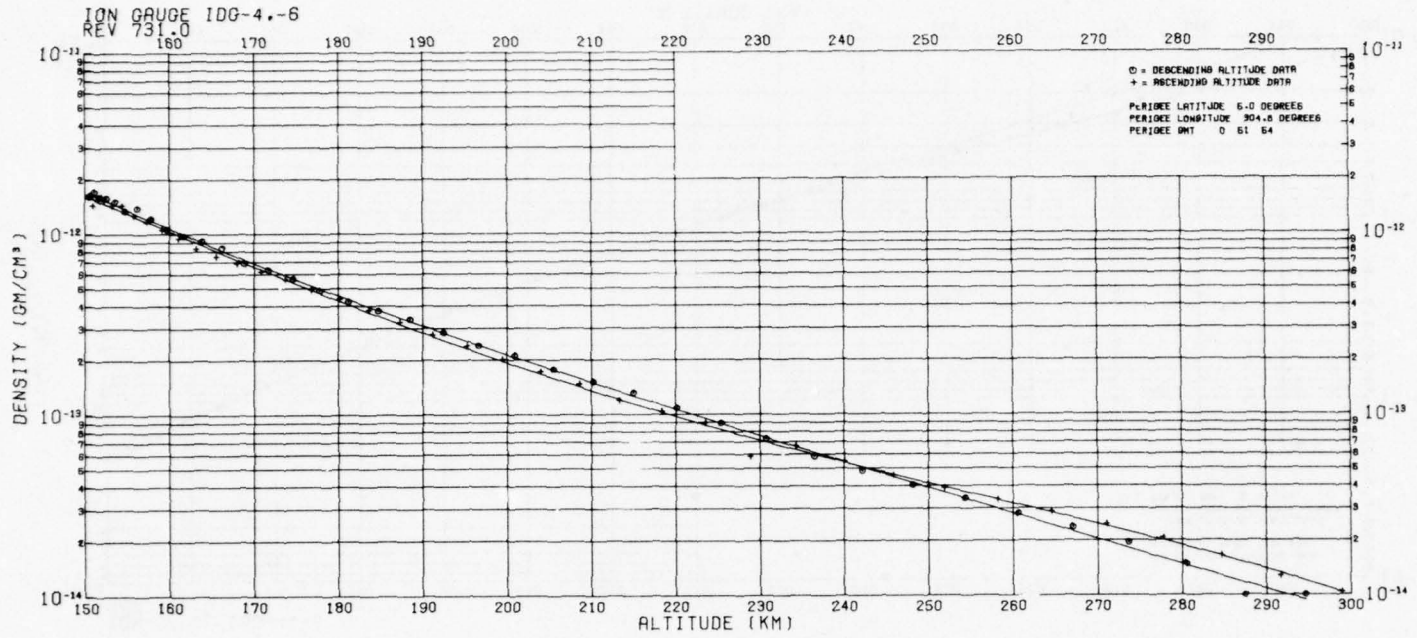

ION GAUGE IDG-4,-6
REV 718.0
DENSITY (GM/CM³)
ALTITUDE (KM)
⊖ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 7.9 DEGREES
PERIGEE LONGITUDE 329.7 DEGREES
PERIGEE GMT 83 11 18

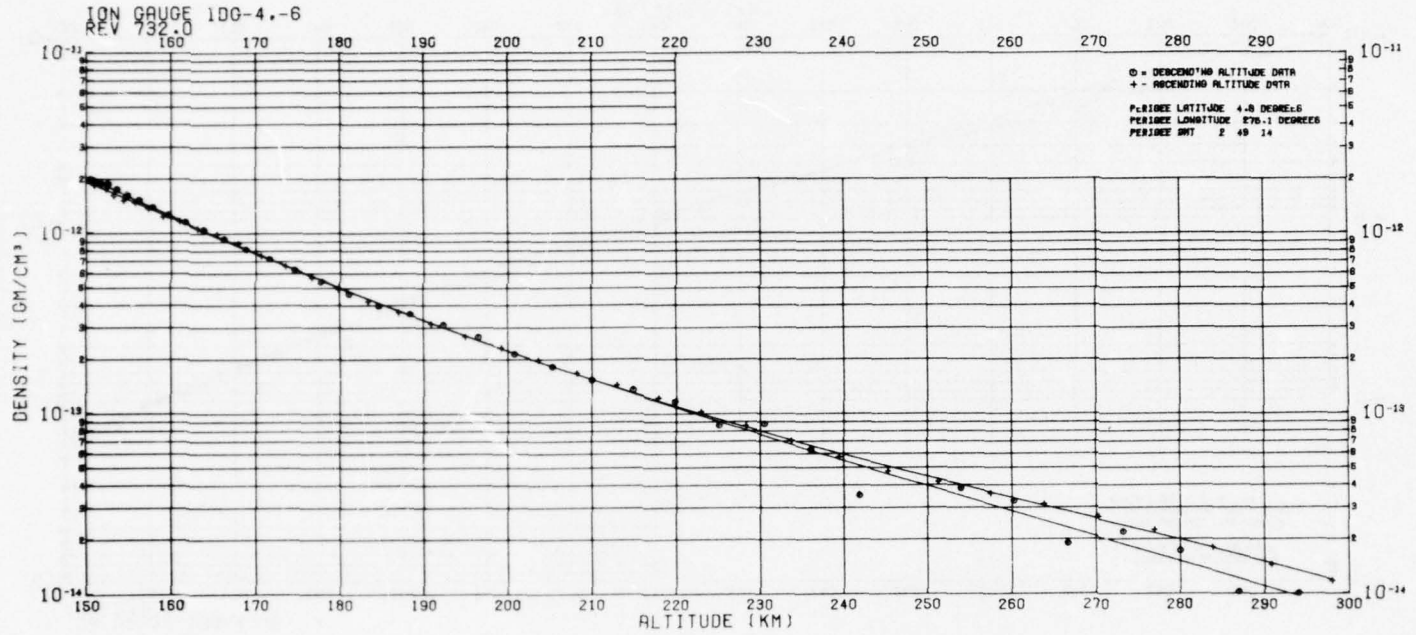

ION GAUGE IDG-4.-6
REV 719.0
© = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 7.1 DEGREES
PERIGEE LONGITUDE 300.0 DEGREES
PERIGEE GMT 1 10 46
DENSITY (GM/CM³)
ALTITUDE (KM)
150
160
170
180
190
200
210
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230
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250
260
270
280
290
300

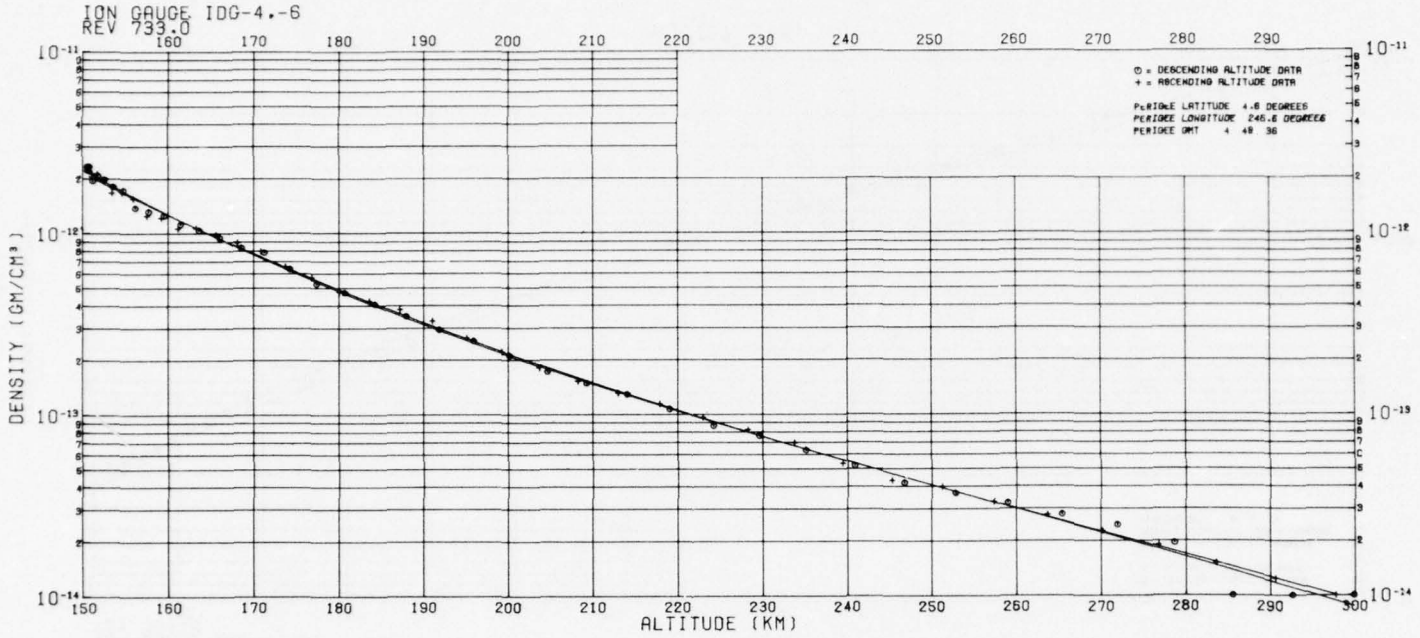

ION GAUGE IDG-4,-6
REV 720.0
⊖ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 6.9 DEGREES
PERIGEE LONGITUDE 270.4 DEGREES
PERIGEE GMT 3 8 16
DENSITY (GM/CM³)
ALTITUDE (KM)

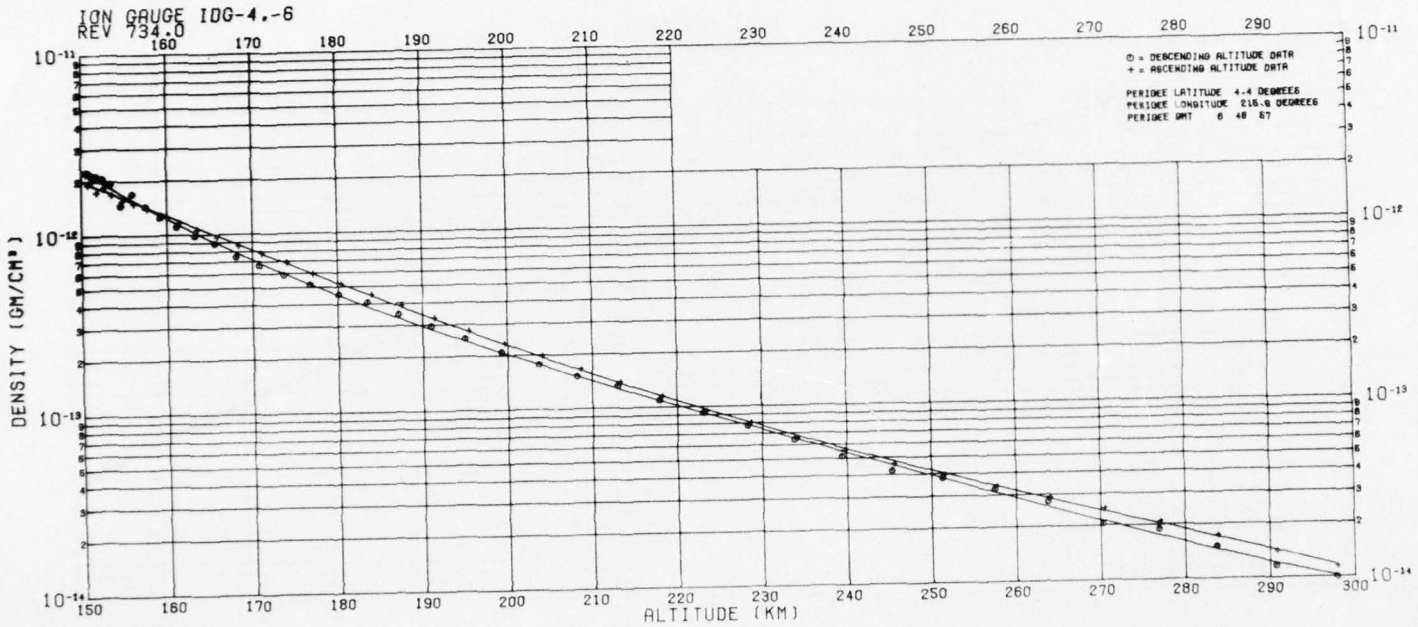

ION GAUGE IDG-4,-6
REV 722.0
© = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 6.6 DEGREES
PERIGEE LONGITUDE 211.1 DEGREES
PERIGEE GMT 7 5 12
DENSITY (GM/CM³)
ALTITUDE (KM)
150
160
170
180
190
200
210
220
230
240
250
260
270
280
290
300

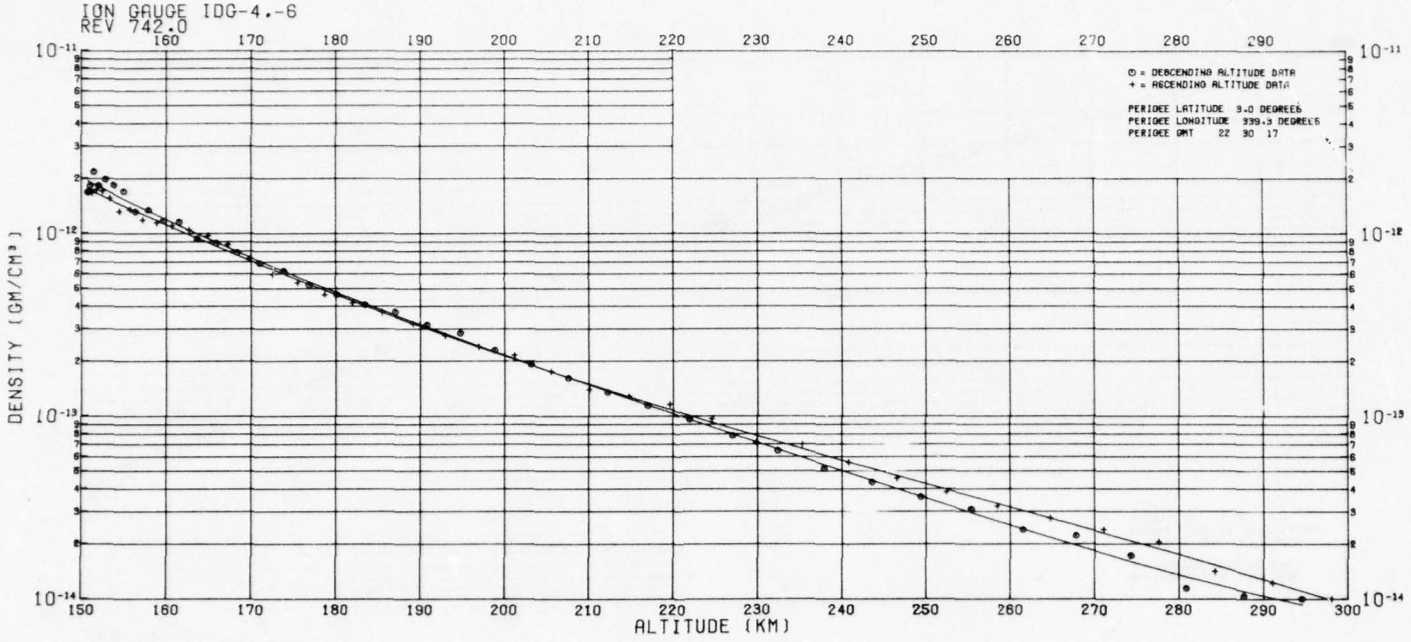

ION GAUGE IDG-4,-6
REV 723.0
⊙ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 6.4 DEGREES
PERIGEE LONGITUDE 181.6 DEGREES
PERIGEE GMT 9 4 45
DENSITY (GM/CM³)
ALTITUDE (KM)
10⁻¹¹
10⁻¹²
10⁻¹³
10⁻¹⁴
150
160
170
180
190
200
210
220
230
240
250
260
270
280
290
300

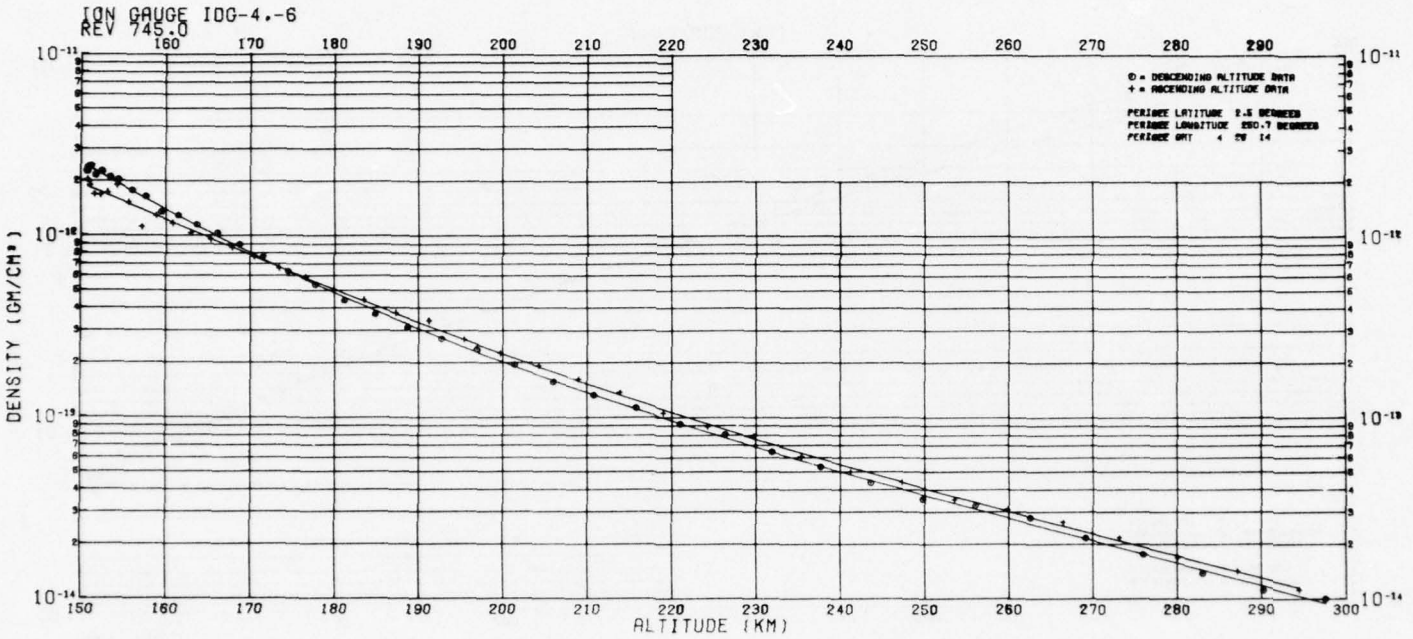

ION GAUGE IDG-4.-6
REV 731.0
○ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 6.0 DEGREES
PERIGEE LONGITUDE 304.8 DEGREES
PERIGEE GMT 0 61 64
DENSITY (GM/CM³)
ALTITUDE (KM)

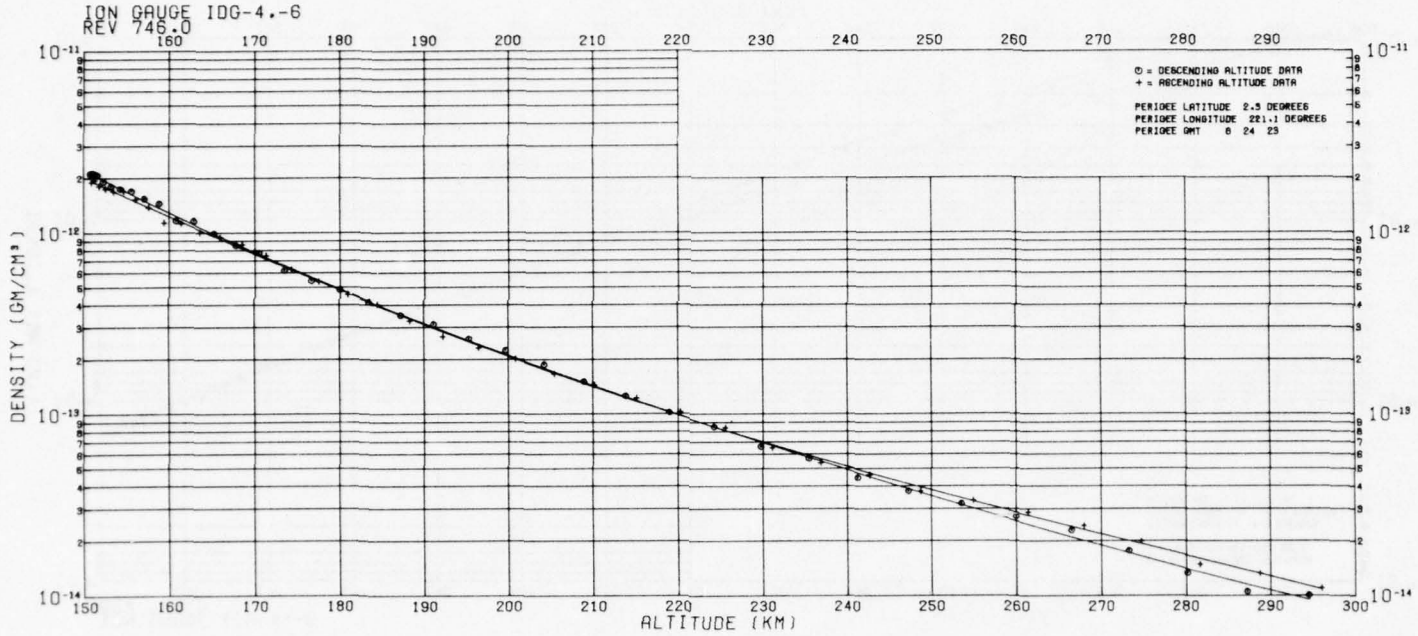

ION GAUGE IDG-4,-6
REV 732.0
⊙ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 4.8 DEGREES
PERIGEE LONGITUDE 276.1 DEGREES
PERIGEE GMT 2 49 14
DENSITY (GM/CM³)
ALTITUDE (KM)
10⁻¹¹
10⁻¹²
10⁻¹³
10⁻¹⁴
150
160
170
180
190
200
210
220
230
240
250
260
270
280
290
300

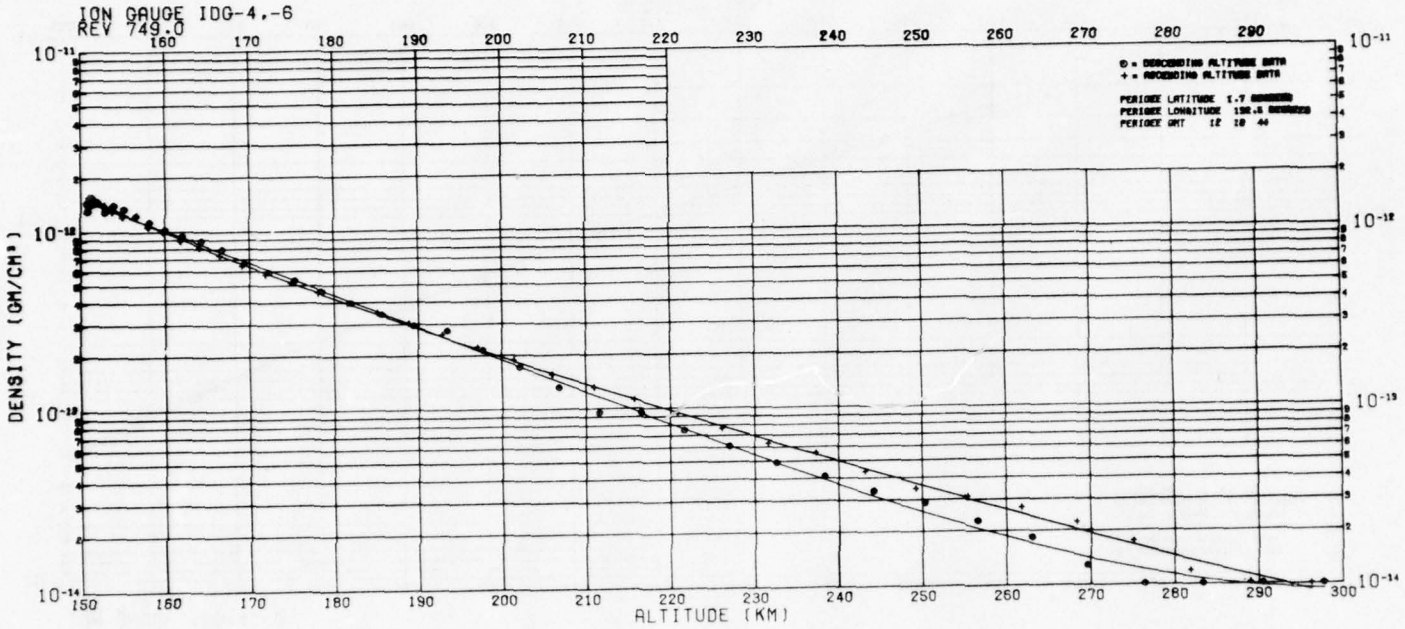

ION GAUGE IDG-4.-6
REV 733.0
© = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 4.6 DEGREES
PERIGEE LONGITUDE 245.6 DEGREES
PERIGEE GMT 4 48 36
DENSITY (GM/CM³)
ALTITUDE (KM)
10⁻¹¹
10⁻¹²
10⁻¹³
10⁻¹⁴
150
160
170
180
190
200
210
220
230
240
250
260
270
280
290
300

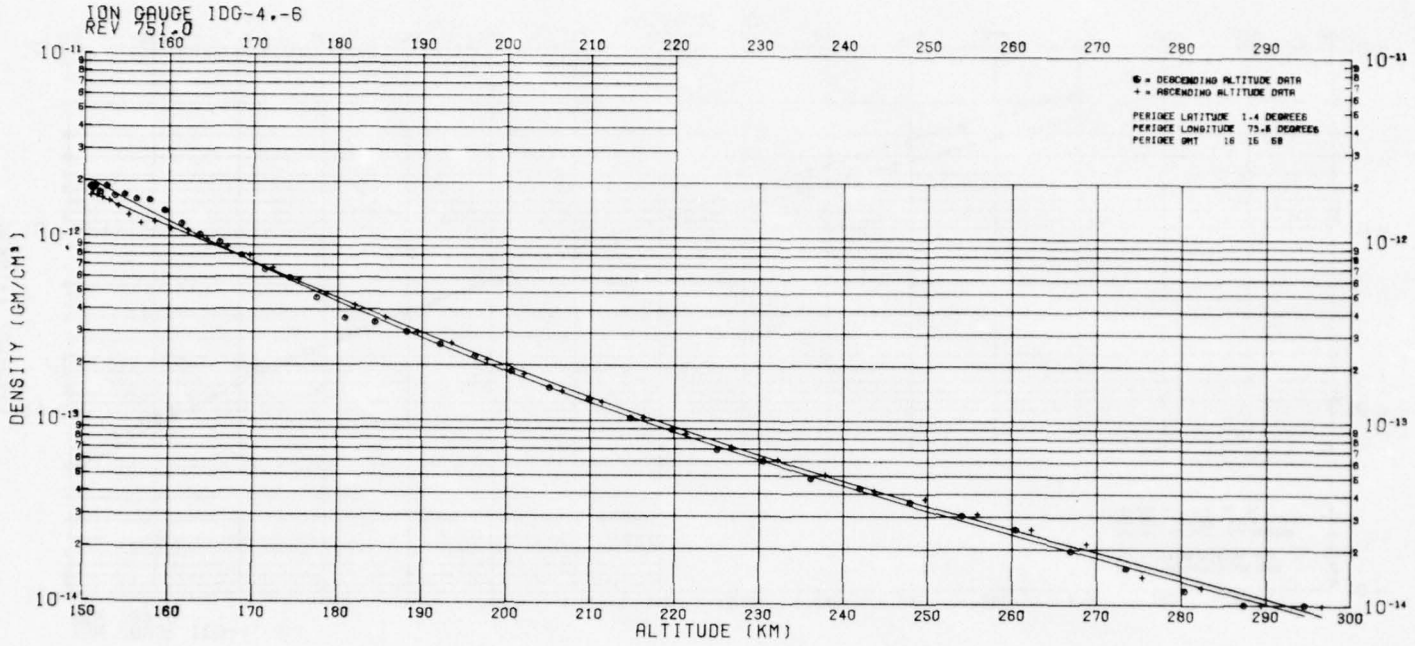

ION GAUGE IDG-4.-6
REV 734.0
⊙ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 4.4 DEGREES
PERIGEE LONGITUDE 216.9 DEGREES
PERIGEE GMT 6 48 57
DENSITY (GM/CM³)
ALTITUDE (KM)

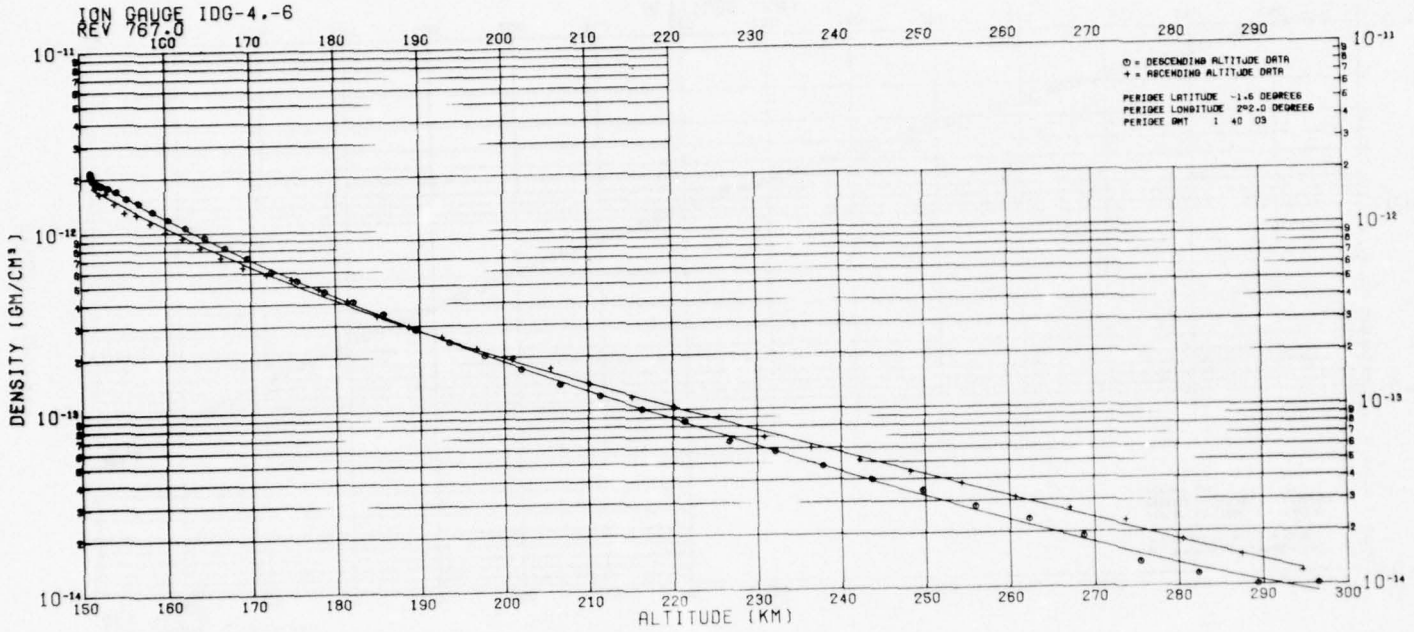

ION GAUGE IDG-4.-6
REV 742.0
⊙ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 9.0 DEGREES
PERIGEE LONGITUDE 339.3 DEGREES
PERIGEE GMT 22 30 17
DENSITY (GM/CM³)
ALTITUDE (KM)

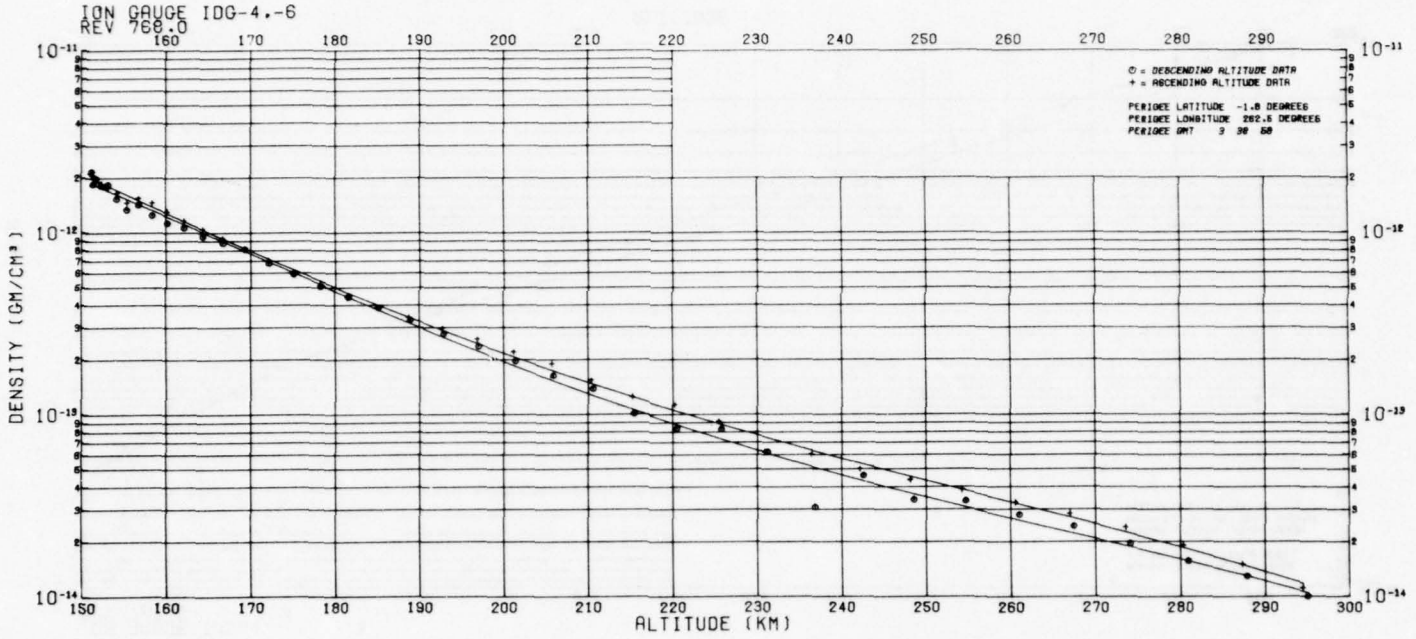

ION GAUGE IDG-4.-6
REV 745.0
© = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 2.5 DEGREES
PERIGEE LONGITUDE 280.7 DEGREES
PERIGEE GMT 4 59 14
DENSITY (GM/CM³)
ALTITUDE (KM)
150
160
170
180
190
200
210
220
230
240
250
260
270
280
290
300

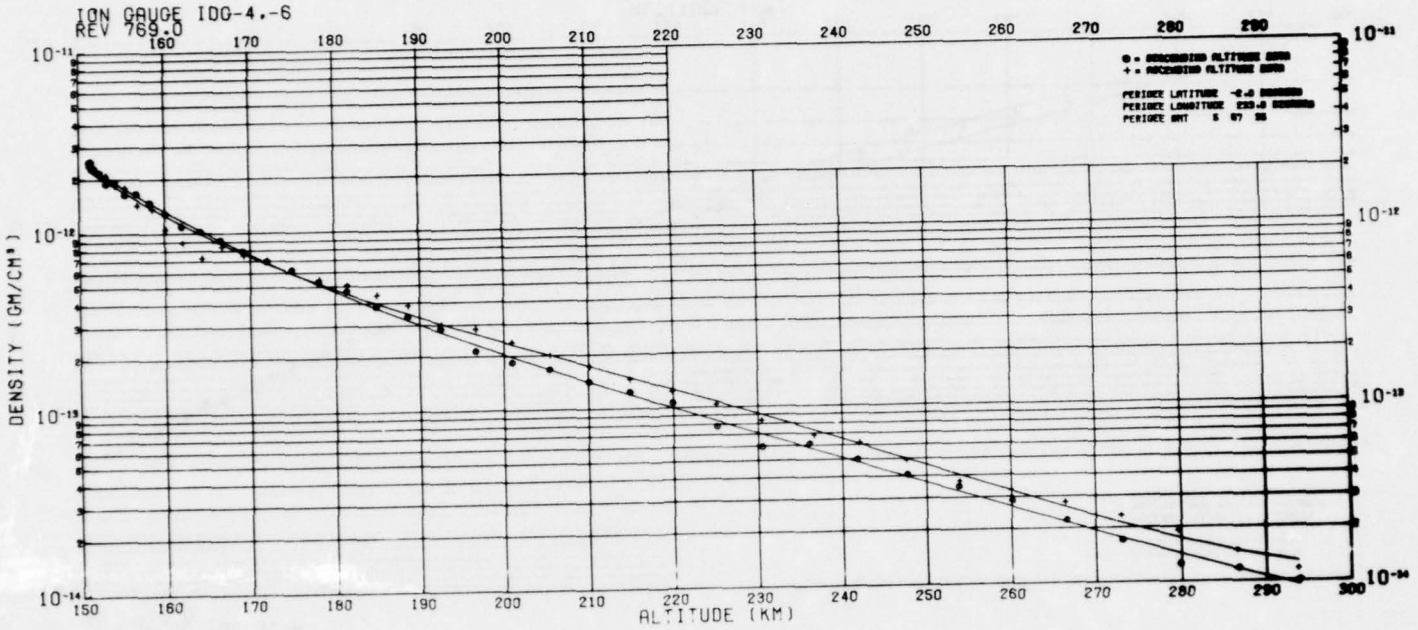

ION GAUGE IDG-4.-6
REV 746.0
⊙ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 2.5 DEGREES
PERIGEE LONGITUDE 221.1 DEGREES
PERIGEE GMT 6 24 23
DENSITY (GM/CM³)
ALTITUDE (KM)

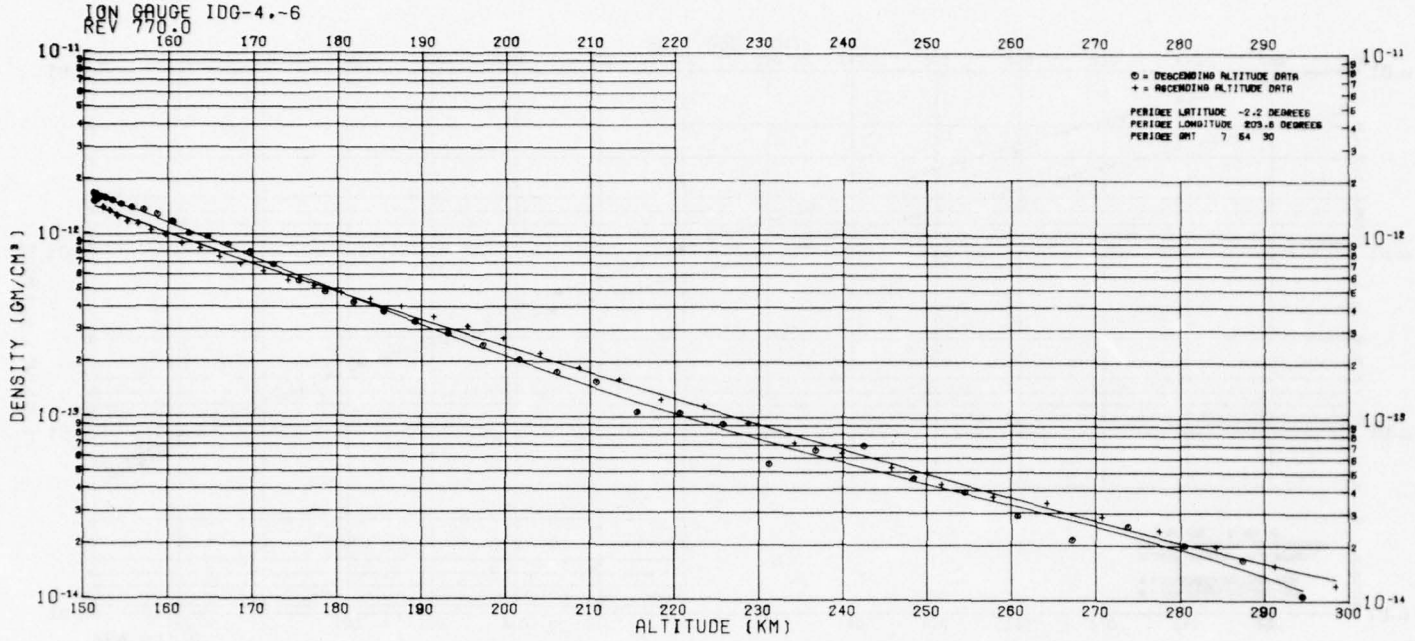

ION GAUGE IDG-4,-6
REV 749.0
DENSITY (GM/CM³)
ALTITUDE (KM)
⊙ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE
PERIGEE LONGITUDE
PERIGEE GMT 12 10 44

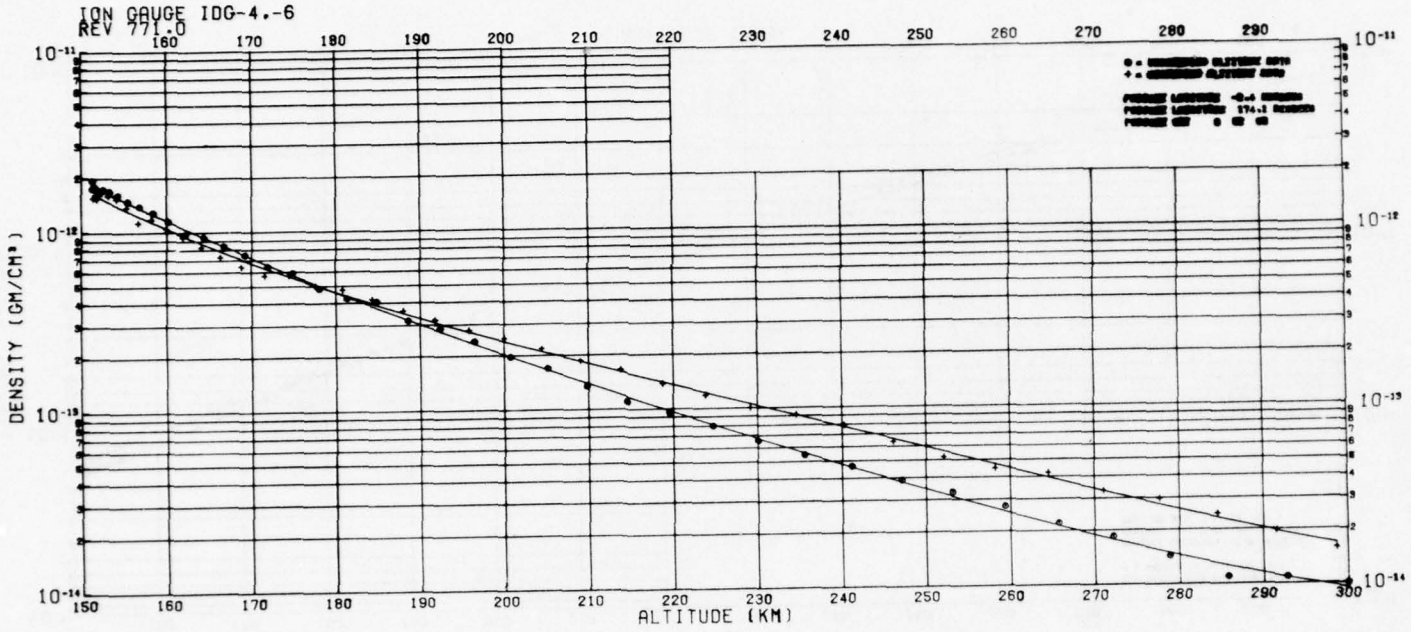

ION GAUGE IDG-4,-6
REV 751.0
⊕ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 1.4 DEGREES
PERIGEE LONGITUDE 75.6 DEGREES
PERIGEE GMT 16 16 58
DENSITY (GM/CM³)
ALTITUDE (KM)

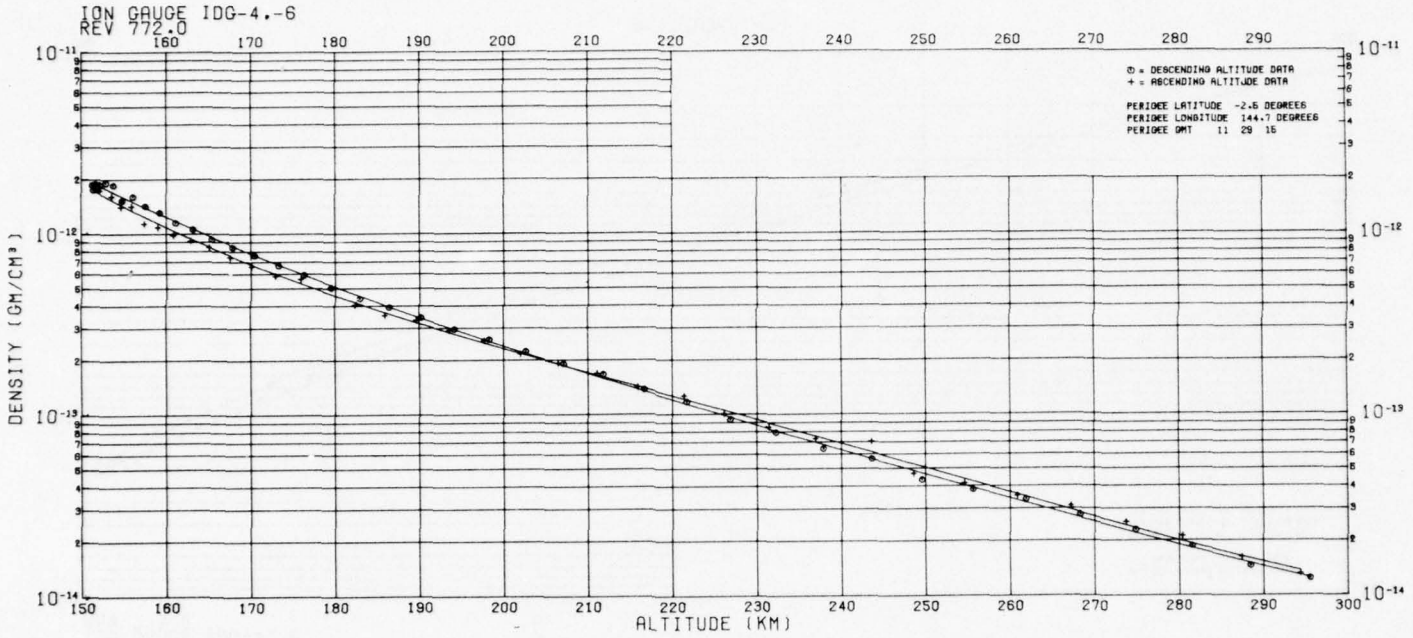

ION GAUGE IDG-4,-6
REV 767.0
IGO
⊖ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE -1.6 DEGREES
PERIGEE LONGITUDE 292.0 DEGREES
PERIGEE GMT 1 40 03
DENSITY (GM/CM³)
ALTITUDE (KM)
10⁻¹¹
10⁻¹²
10⁻¹³
10⁻¹⁴
150
160
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270
280
290
300

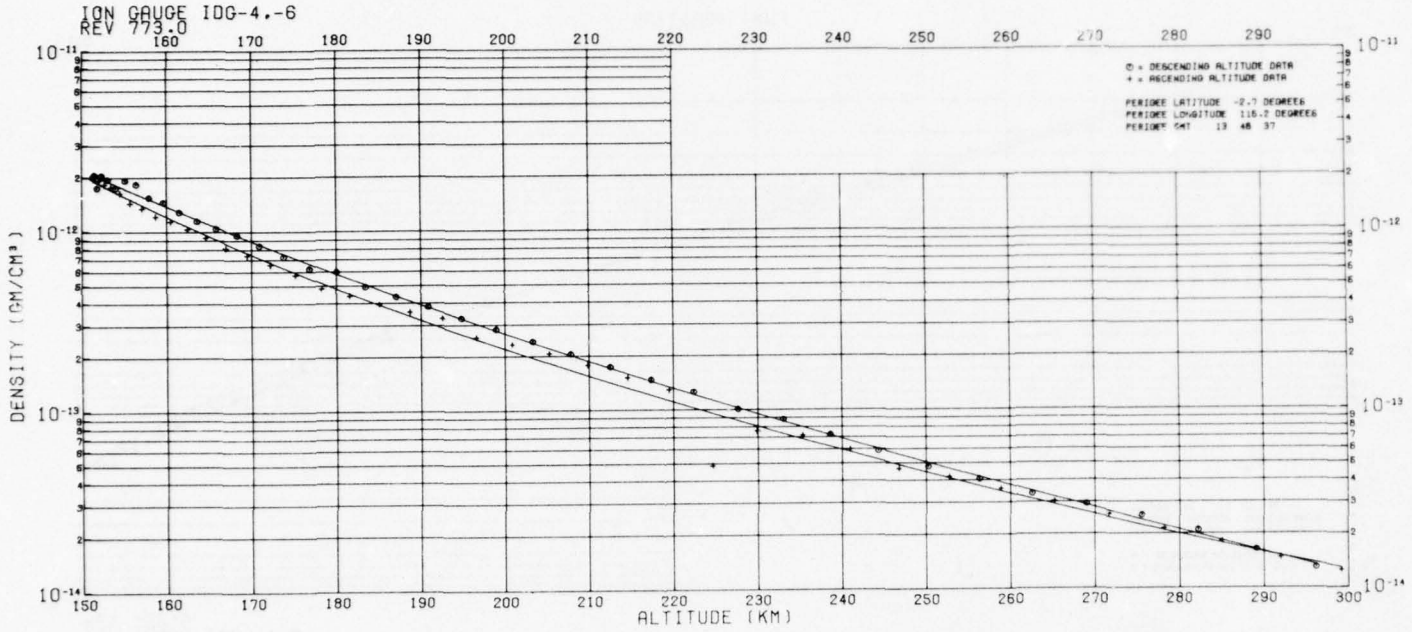

ION GAUGE IDG-4,-6
REV 768.0
© = DESCENDING ALTITUDE DATA
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PERIGEE LATITUDE -1.8 DEGREES
PERIGEE LONGITUDE 282.6 DEGREES
PERIGEE GMT 3 38 58
DENSITY (GM/CM³)
ALTITUDE (KM)
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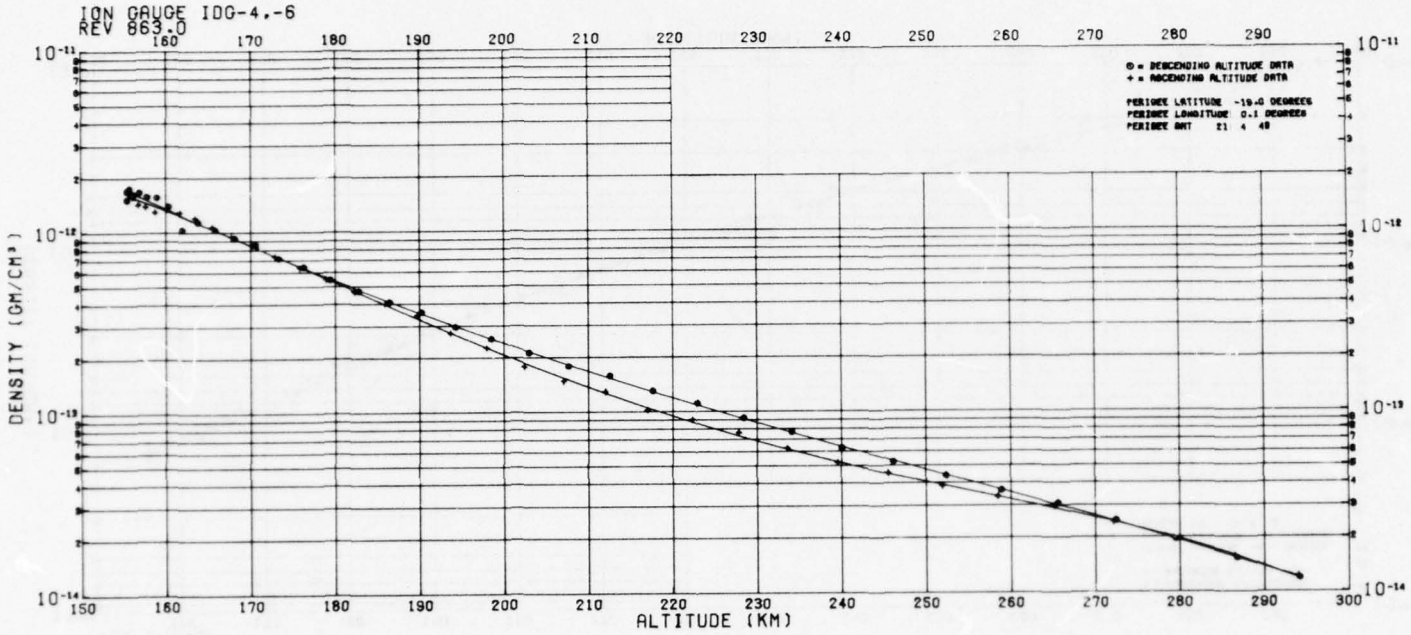

ION GAUGE IDG-4,-6
REV 769.0
DENSITY (GM/CM³)
ALTITUDE (KM)
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180
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300
10⁻¹¹
10⁻¹²
10⁻¹³
10⁻¹⁴

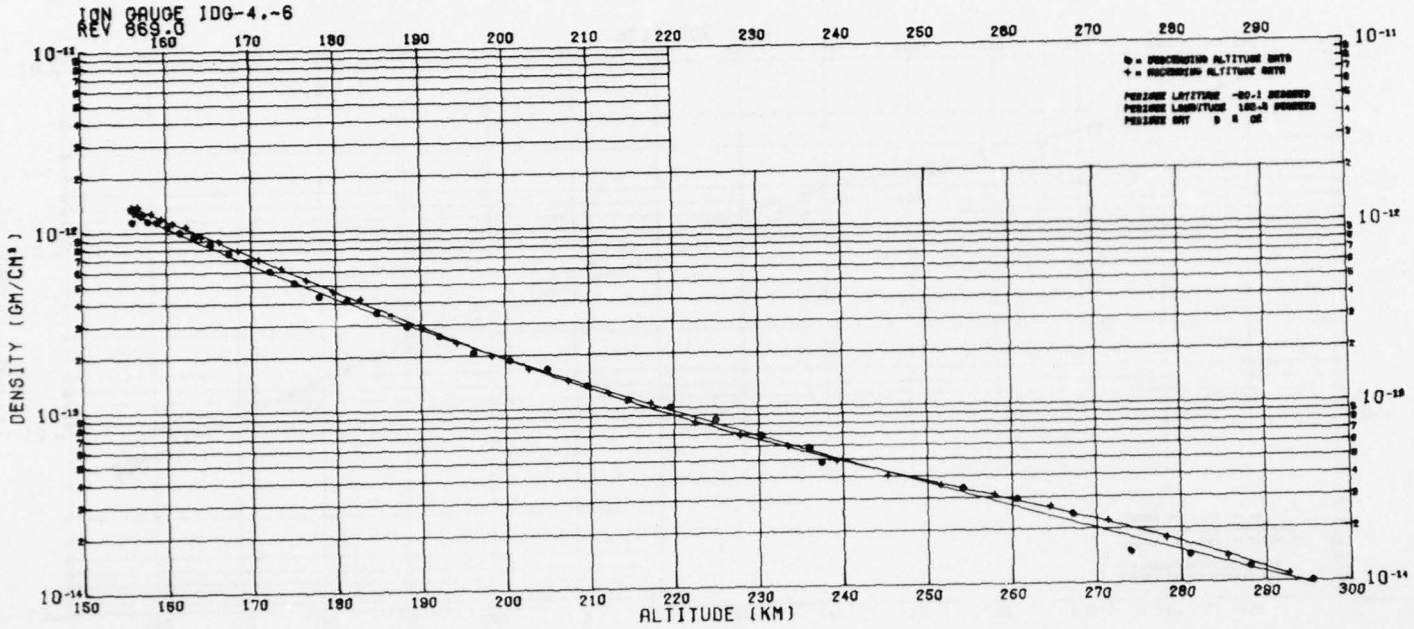

ION GAUGE IDG-4.-6
REV 770.0
© = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE -2.2 DEGREES
PERIGEE LONGITUDE 209.8 DEGREES
PERIGEE GMT 7 54 30
DENSITY (GM/CM³)
ALTITUDE (KM)

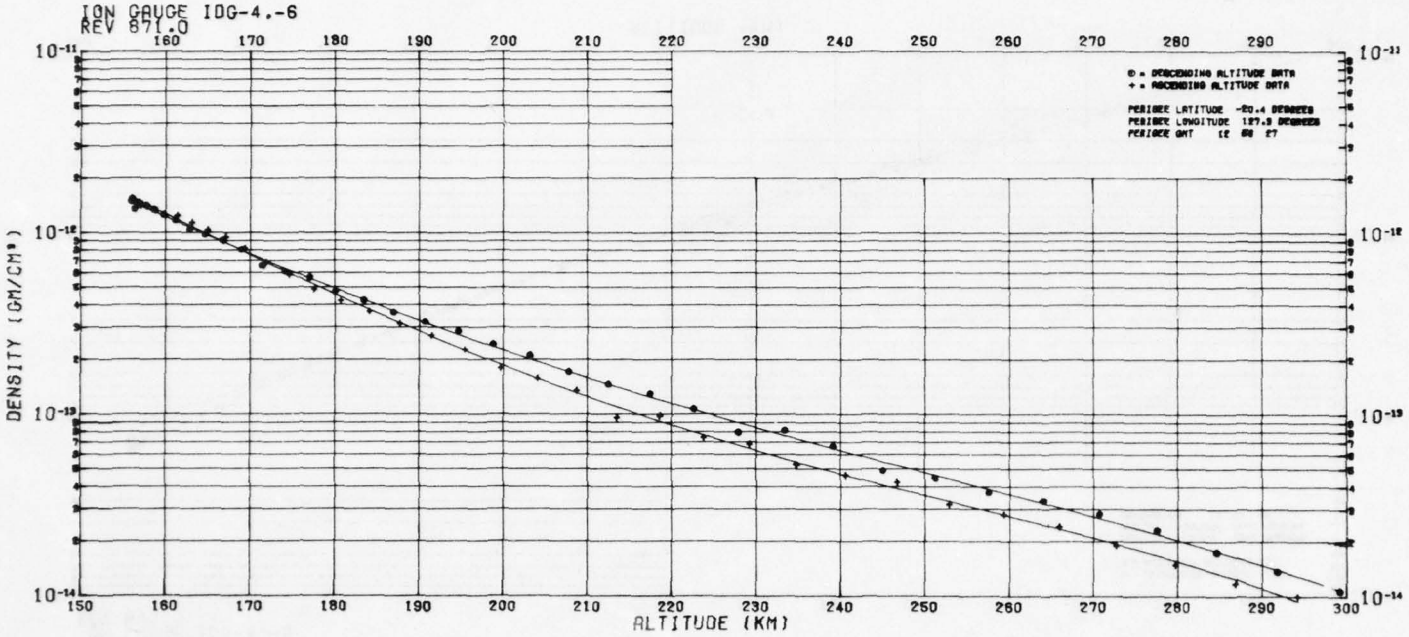

ION GAUGE IDG-4.-6
REV 771.0
DENSITY (GM/CM³)
ALTITUDE (KM)
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180
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10⁻¹¹
10⁻¹²
10⁻¹³
10⁻¹⁴

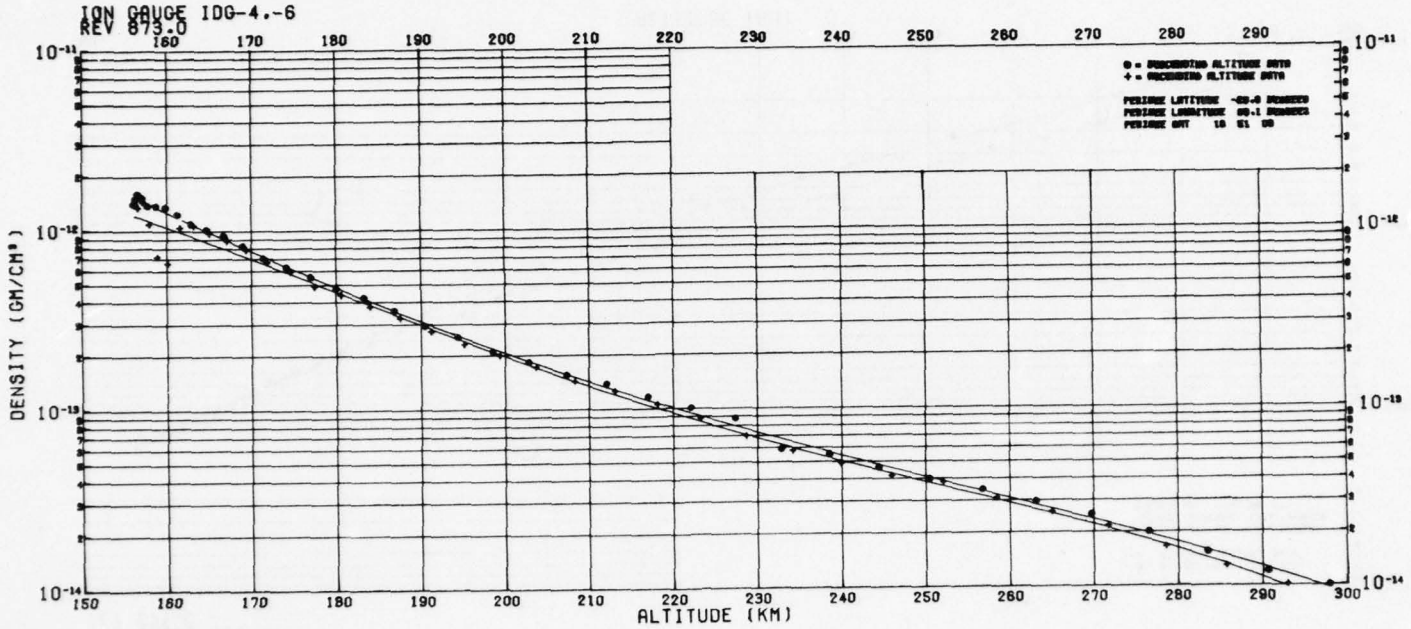

ION GAUGE IDG-4,-6
REV 772.0
⊙ = DESCENDING ALTITUDE DATA
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PERIGEE LATITUDE -2.5 DEGREES
PERIGEE LONGITUDE 144.7 DEGREES
PERIGEE GMT 11 29 15
DENSITY (GM/CM³)
ALTITUDE (KM)
10⁻¹¹
10⁻¹²
10⁻¹³
10⁻¹⁴
150
160
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230
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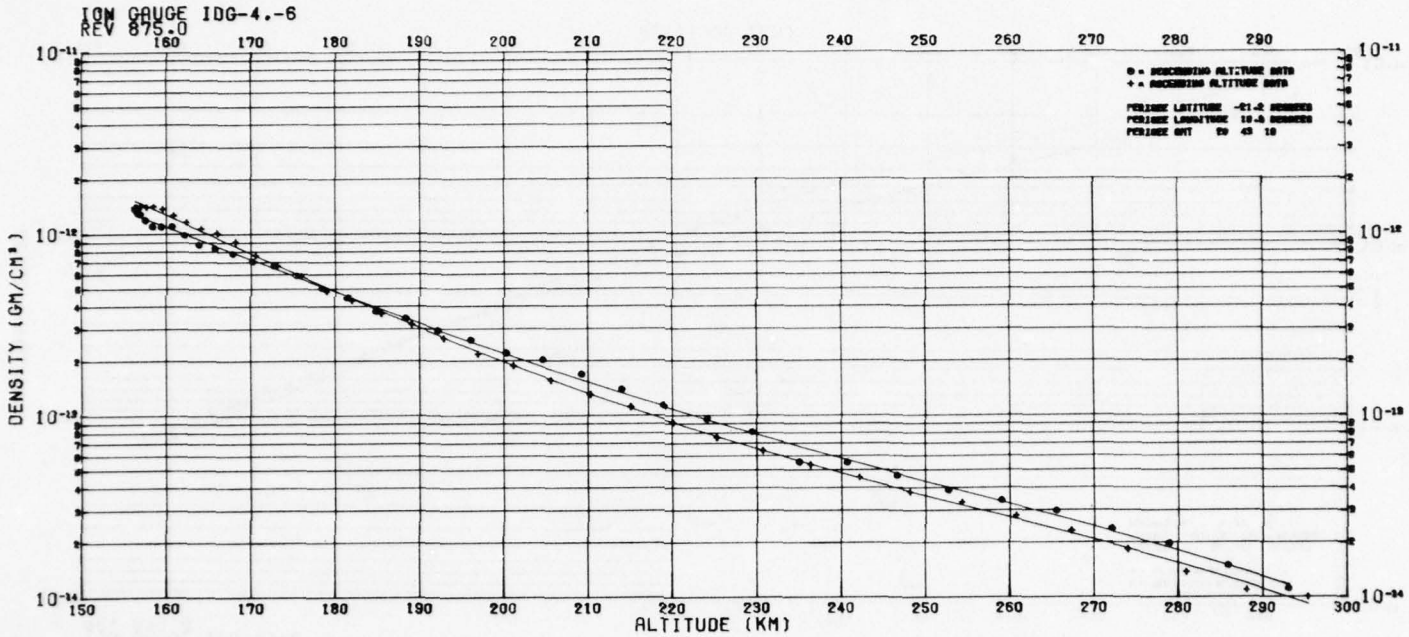

ION GAUGE IDG-4.-6
REV 773.0
DENSITY (GM/CM³)
ALTITUDE (KM)
⊙ = DESCENDING ALTITUDE DATA
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PERIGEE LATITUDE -2.7 DEGREES
PERIGEE LONGITUDE 115.2 DEGREES
PERIGEE GMT 13 48 37

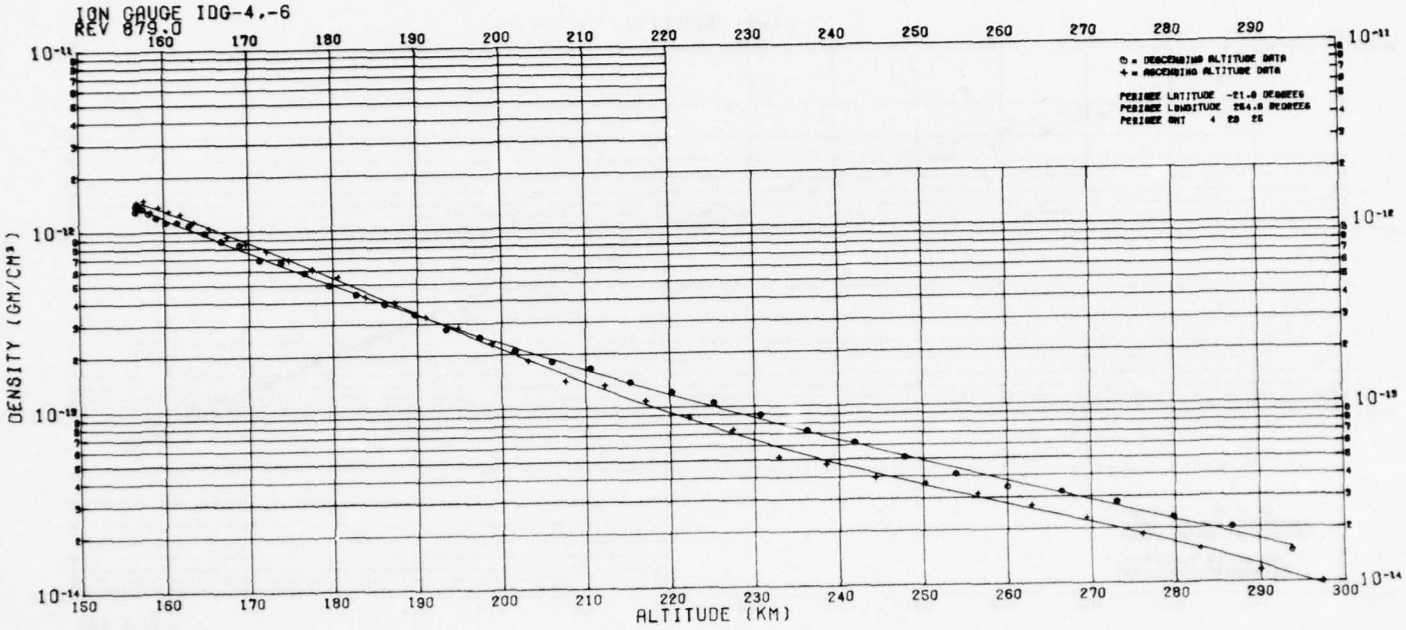

ION GAUGE IDG-4,-6
REV 863.0
⊙ = DESCENDING ALTITUDE DATA
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PERIGEE LATITUDE -19.0 DEGREES
PERIGEE LONGITUDE 0.1 DEGREES
PERIGEE GMT 21 4 49
DENSITY (GM/CM³)
ALTITUDE (KM)
10⁻¹¹
10⁻¹²
10⁻¹³
10⁻¹⁴
150
160
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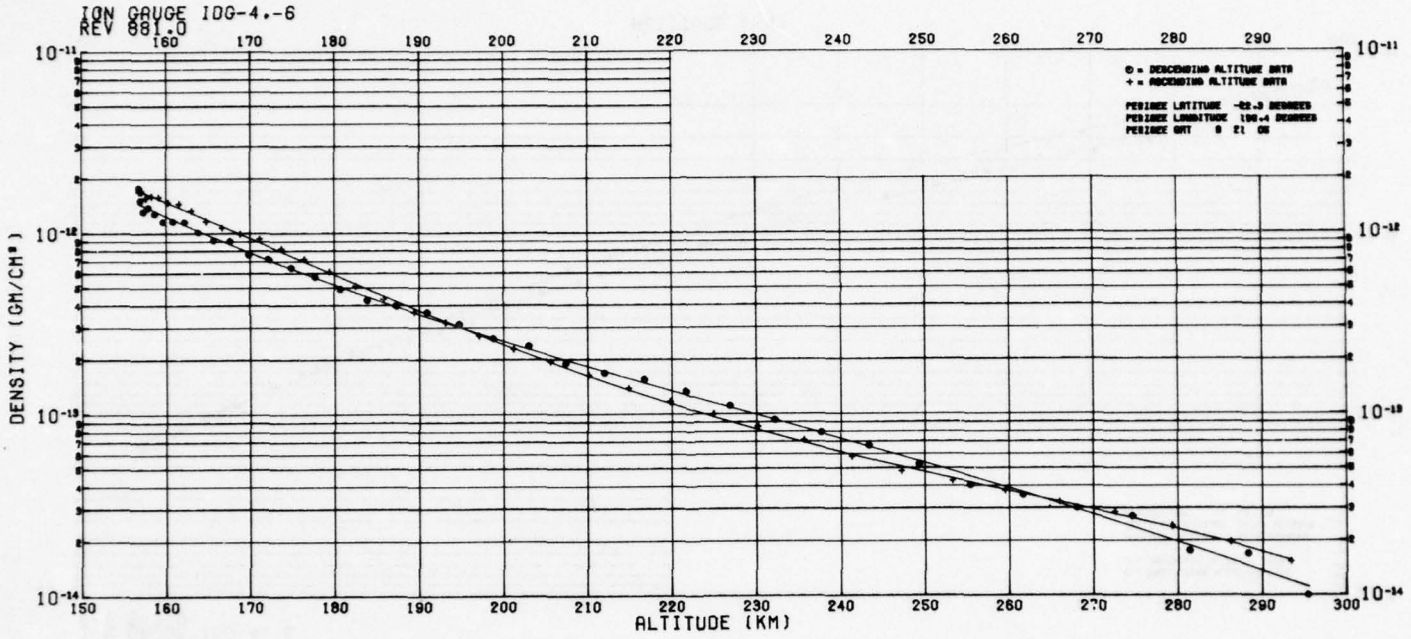

ION GAUGE IDG-4,-6
REV 869.0
DENSITY (GM/CM³)
ALTITUDE (KM)

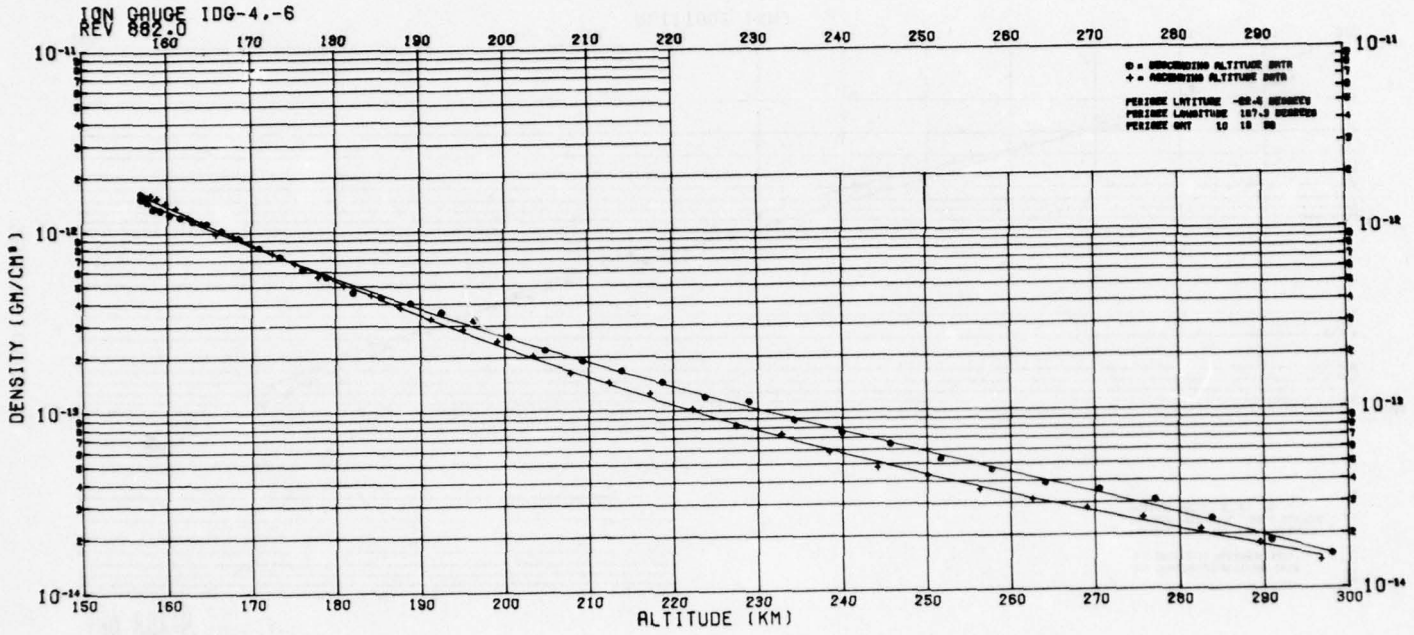

ION GAUGE IDG-4.-6
REV 871.0
DENSITY (GM/CM³)
ALTITUDE (KM)
⊙ = DESCENDING ALTITUDE DATA
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PERIGEE LATITUDE -20.4 DEGREES
PERIGEE LONGITUDE 127.8 DEGREES
PERIGEE GMT 12 00 27

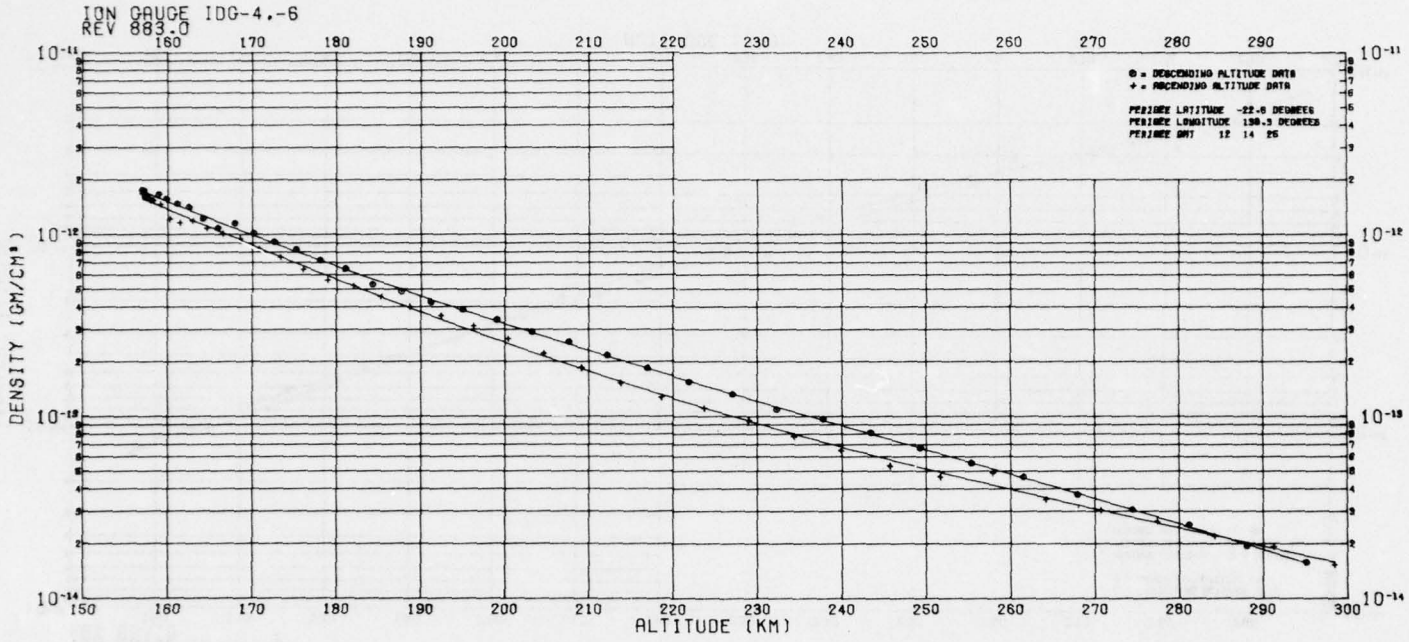

ION GAUGE IDG-4.-6
REV 873.0
DENSITY (GM/CM³)
ALTITUDE (KM)

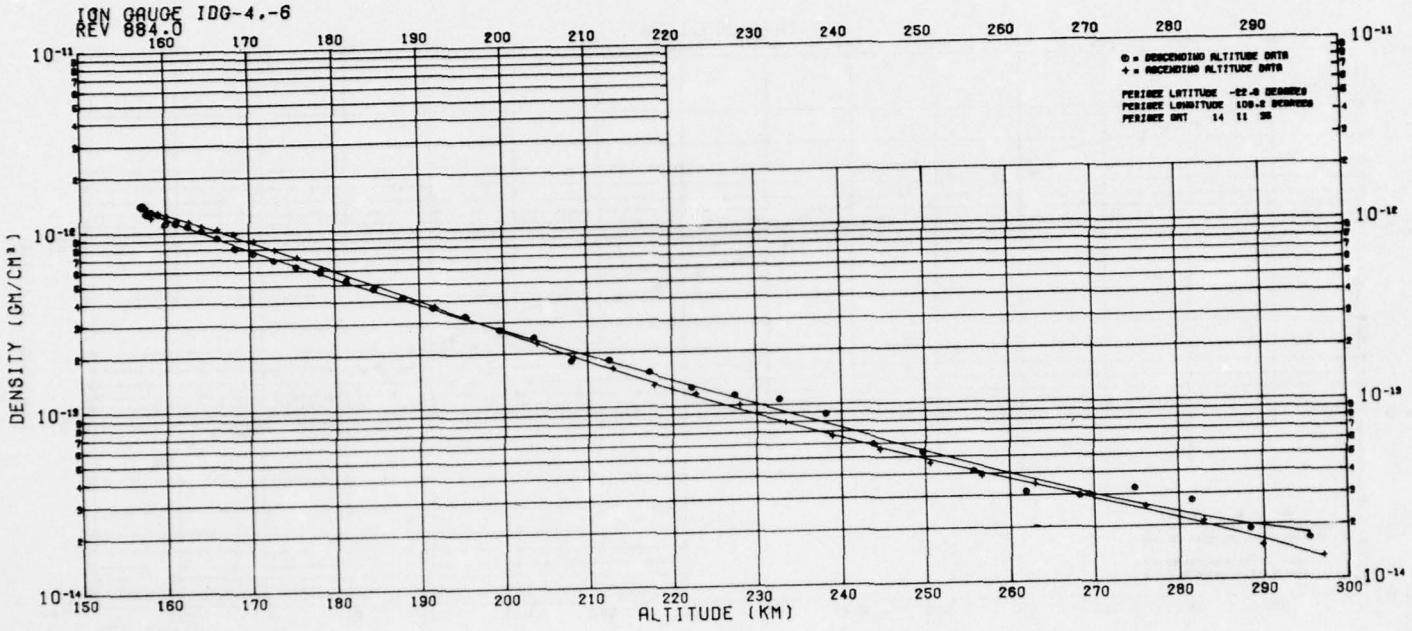

ION GAUGE IDG-4.-6
REV 875.0
DENSITY (GM/CM³)
ALTITUDE (KM)
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170
180
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10⁻¹¹
10⁻¹²
10⁻¹³
10⁻¹⁴

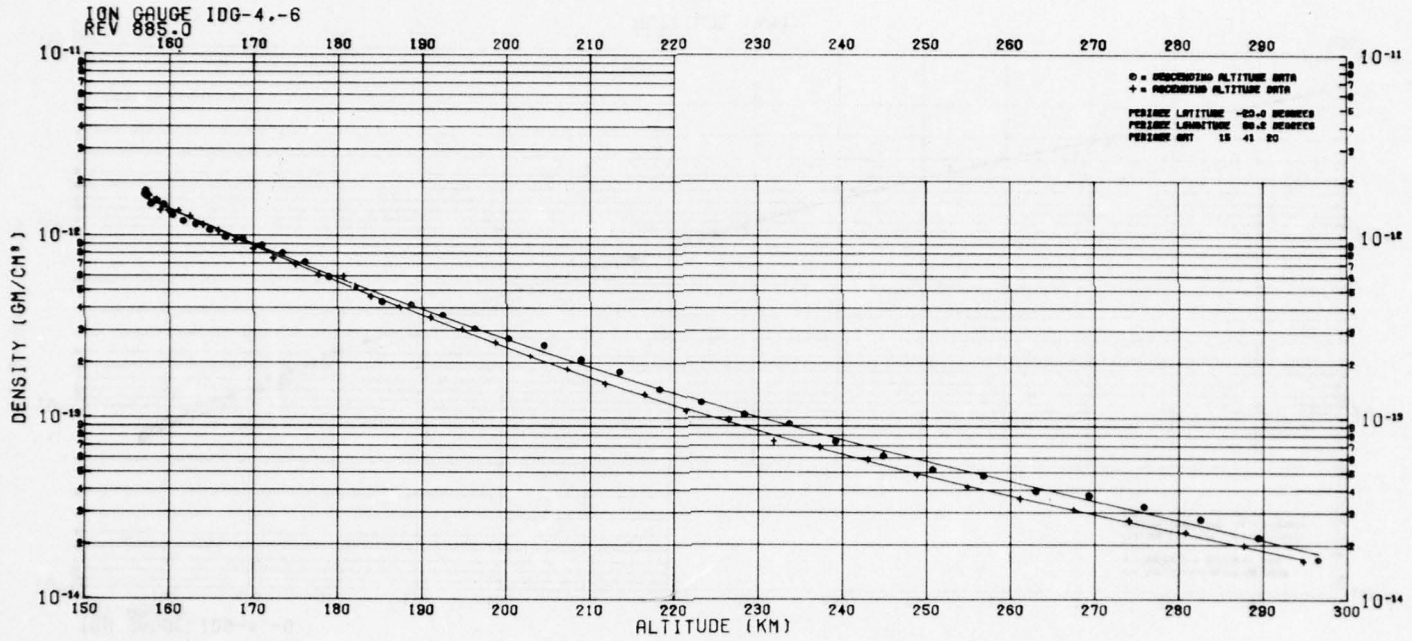

ION GAUGE IDG-4,-6
REV 879.0
160 170 180 190 200 210 220 230 240 250 260 270 280 290
10⁻¹¹
10⁻¹²
10⁻¹³
10⁻¹⁴
DENSITY (GM/CM³)
150 160 170 180 190 200 210 220 230 240 250 260 270 280 290 300
ALTITUDE (KM)
○ = DESCENDING ALTITUDE DATA
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PERIGEE LATITUDE -21.8 DEGREES
PERIGEE LONGITUDE 254.8 DEGREES
PERIGEE GMT 4 29 25

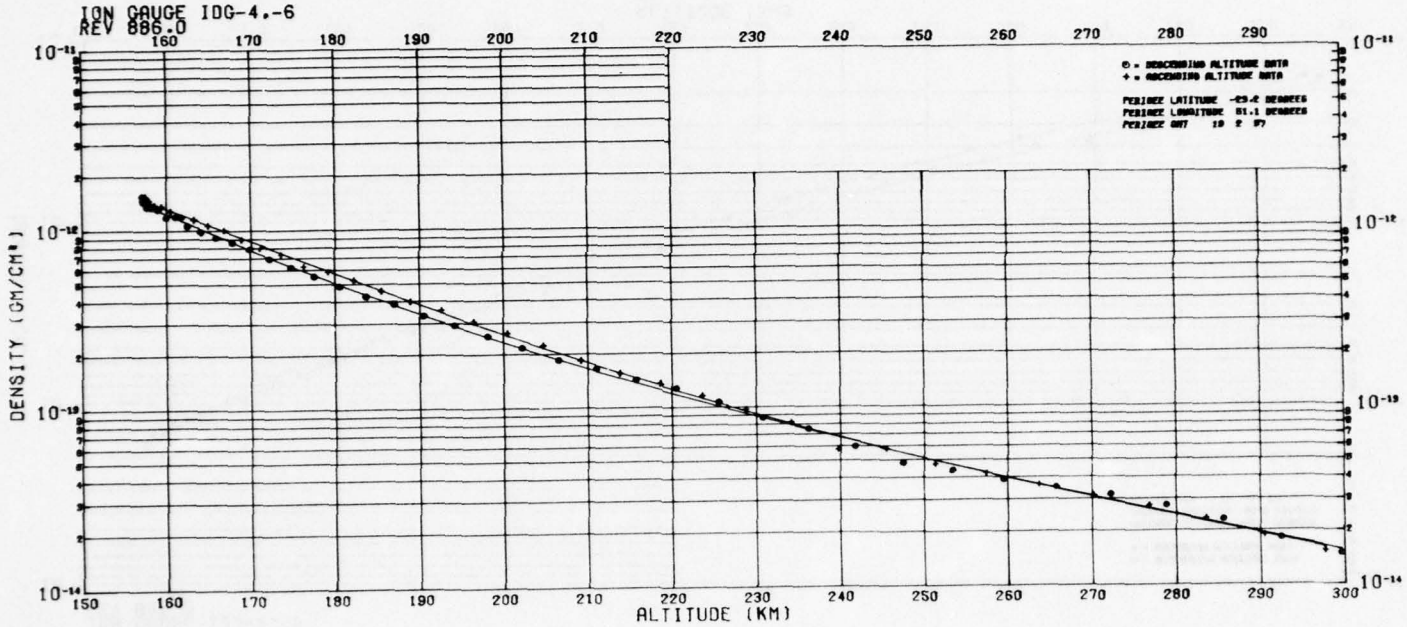

ION GAUGE IDG-4.-6
REV 881.0
o = DESCENDING ALTITUDE DATA
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PERIGEE LATITUDE -20.3 DEGREES
PERIGEE LONGITUDE 199.4 DEGREES
PERIGEE GMT 0 21 00
DENSITY (GM/CM³)
ALTITUDE (KM)
10⁻¹¹
10⁻¹²
10⁻¹³
10⁻¹⁴
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230
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290
300

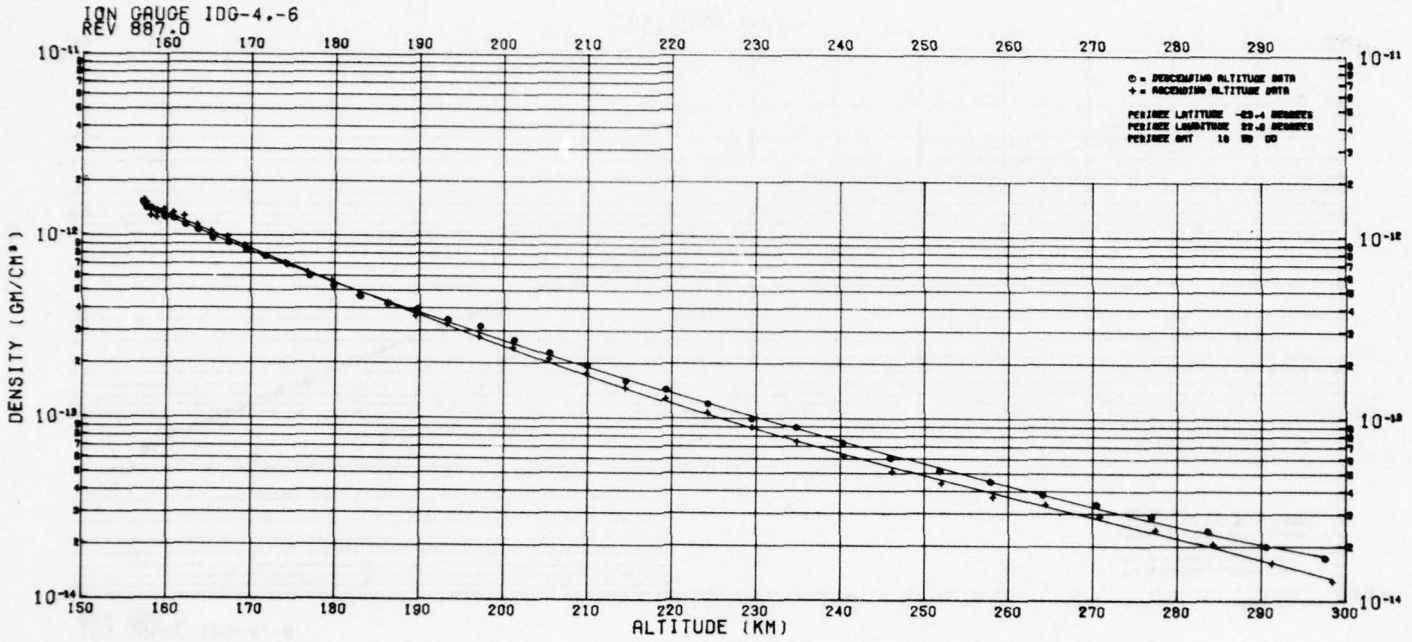

ION GAUGE IDG-4,-6
REV 882.0
DENSITY (GM/CM³)
ALTITUDE (KM)
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10⁻¹²
10⁻¹³
10⁻¹⁴

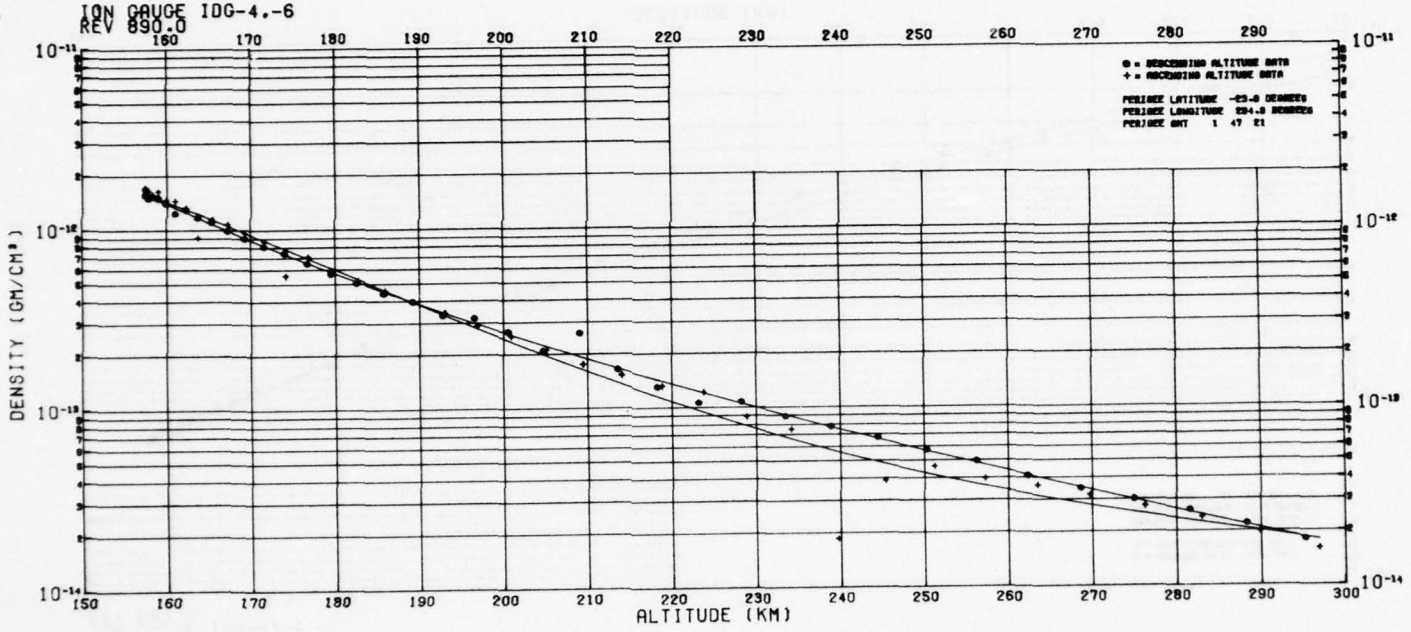

ION GAUGE IDG-4,-6
REV 883.0
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ALTITUDE (KM)
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270
280
290
300
10⁻¹¹
10⁻¹²
10⁻¹³
10⁻¹⁴
• = DESCENDING ALTITUDE DATA
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PERIGEE LATITUDE -22.6 DEGREES
PERIGEE LONGITUDE 138.3 DEGREES
PERIGEE GMT 12 14 26

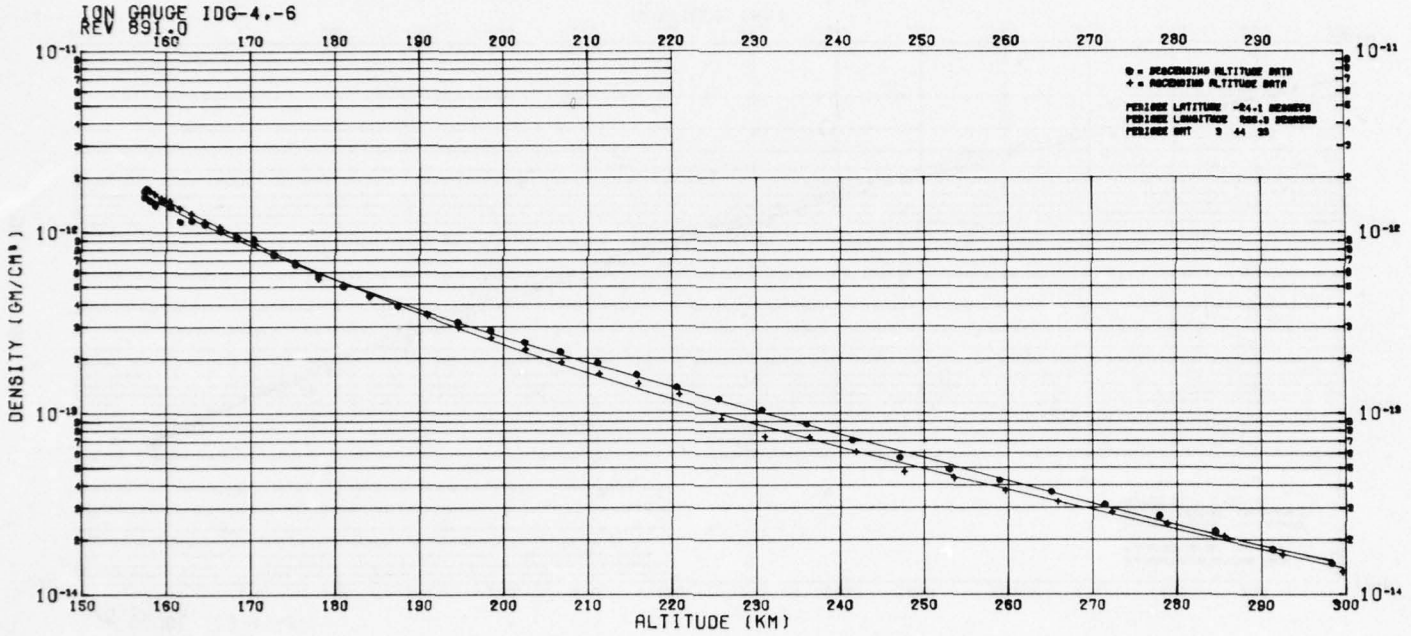

ION GAUGE IDG-4,-6
REV 884.0
⊙ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE -22.8 DEGREES
PERIGEE LONGITUDE 109.2 DEGREES
PERIGEE GMT 14 11 36
DENSITY (GM/CM³)
ALTITUDE (KM)
10⁻¹¹
10⁻¹²
10⁻¹³
10⁻¹⁴
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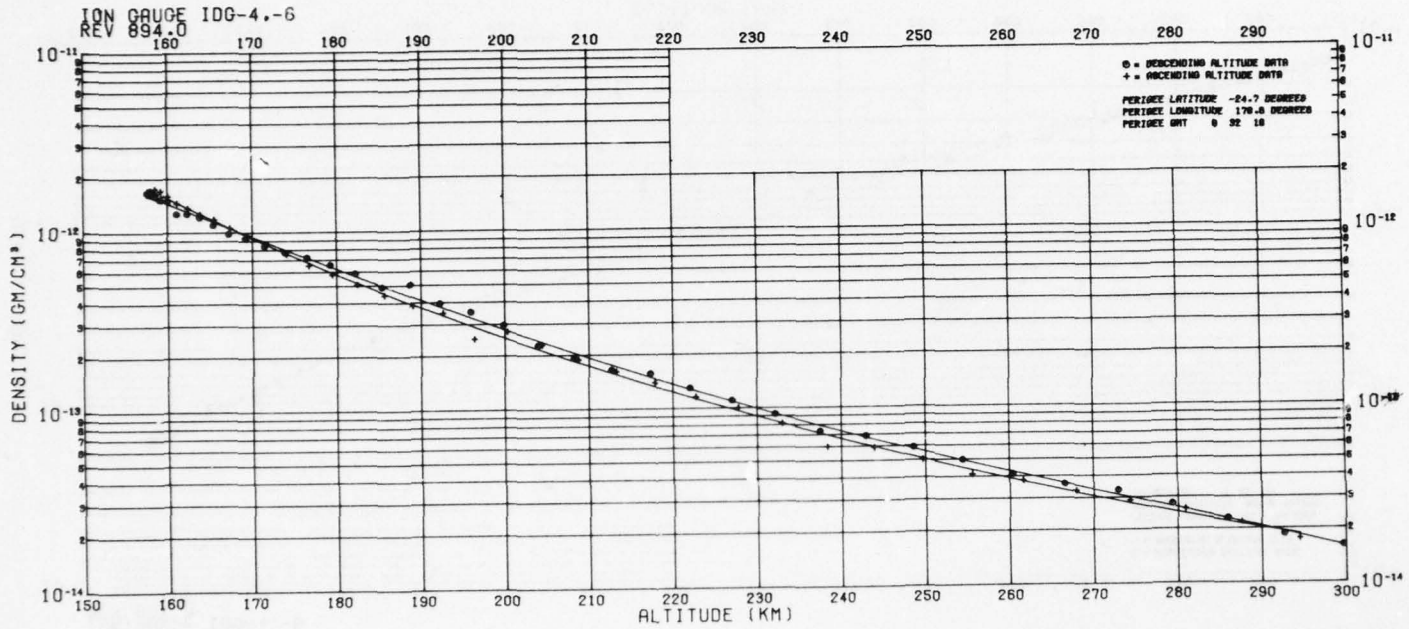

ION GAUGE IDG-4,-6
REV 885.0
DENSITY (GM/CM³)
ALTITUDE (KM)
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280
290
300
10⁻¹¹
10⁻¹²
10⁻¹³
10⁻¹⁴
○ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE -29.0 DEGREES
PERIGEE LONGITUDE 68.2 DEGREES
PERIGEE GMT 15 41 20


ION GAUGE IDG-4.-6
REV 886.0
DENSITY (GM/CM³)
ALTITUDE (KM)
150
160
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180
190
200
210
220
230
240
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260
270
280
290
300
10⁻¹¹
10⁻¹²
10⁻¹³
10⁻¹⁴
© = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE -29.2 DEGREES
PERIGEE LONGITUDE 81.1 DEGREES
PERIGEE GMT 19 2 57


ION GAUGE IDG-4.-6
REV 887.0
DENSITY (GM/CM³)
ALTITUDE (KM)
150
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170
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190
200
210
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280
290
300
10⁻¹¹
10⁻¹²
10⁻¹³
10⁻¹⁴
○ = DESCENDING ALTITUDE DATA
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PERIGEE LATITUDE -23.4 DEGREES
PERIGEE LONGITUDE 22.8 DEGREES
PERIGEE GMT 18 HR 00

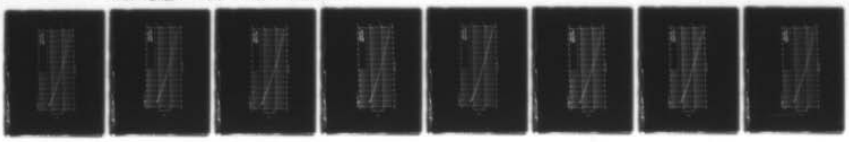

ION GAUGE IDG-4,-6
REV 890.0
DENSITY (GM/CM³)
ALTITUDE (KM)
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290
300
10⁻¹¹
10⁻¹²
10⁻¹³
10⁻¹⁴
PERIGEE LATITUDE -23.0 DEGREES
PERIGEE LONGITUDE 294.0 DEGREES
PERIGEE GMT 1 47 21


ION GAUGE IDG-4,-6
REV 891.0
DENSITY (GM/CM³)
ALTITUDE (KM)
150
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200
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300
10⁻¹¹
10⁻¹²
10⁻¹³
10⁻¹⁴
⊕ = DESCENDING ALTITUDE DATA
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PERIGEE LONGITUDE 235.9 DEGREES
PERIGEE GMT 3 44 35

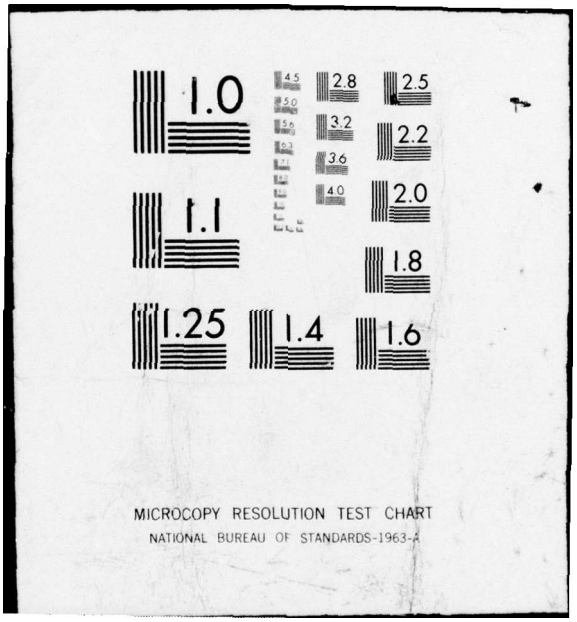

ION GAUGE IDG-4,-6
REV 894.0
⊙ = DESCENDING ALTITUDE DATA
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PERIGEE LONGITUDE 170.8 DEGREES
PERIGEE GMT 0 32 18
DENSITY (GM/CM³)
ALTITUDE (KM)

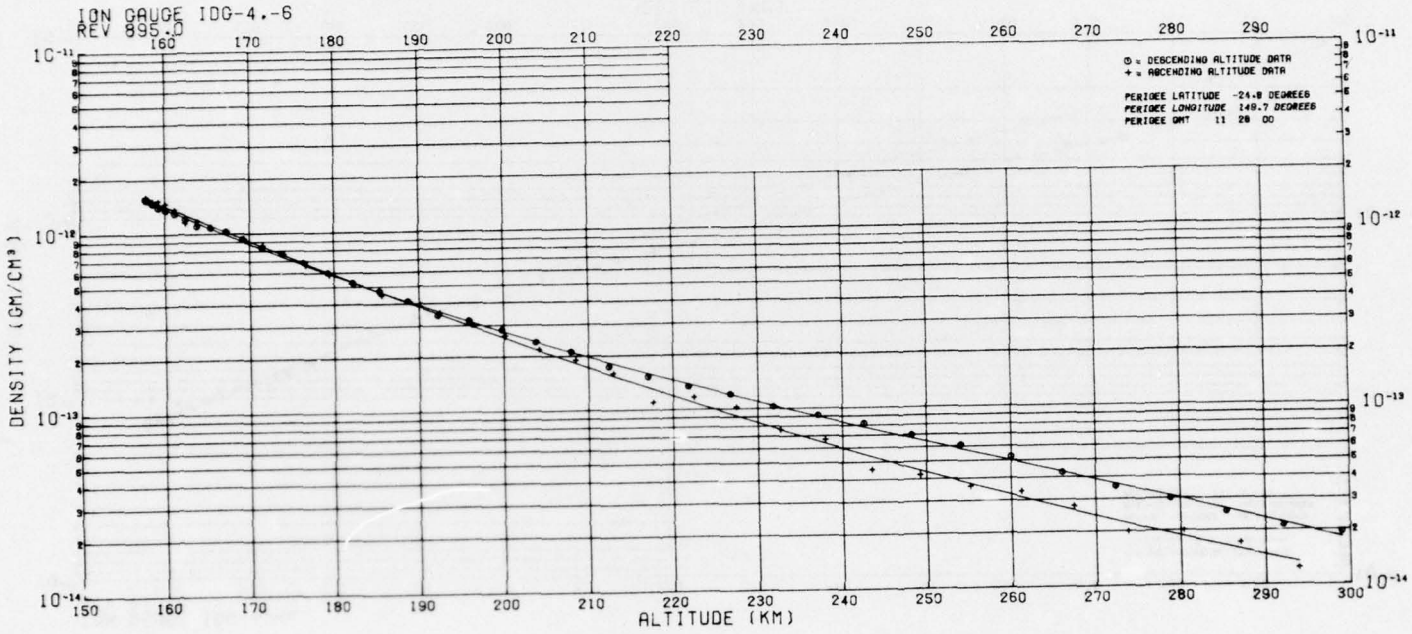
AD-A032 373 AIR FORCE GEOPHYSICS LAB HANSCOM AFB MASS F/G 4/1
IONIZATION GAUGE MEASUREMENTS OF ATMOSPHERIC DENSITY FROM A LOW--ETC(U)
MAY 76 J P MCISAAC, K S CHAMPION
UNCLASSIFIED AFGL-TR-76-0113 NL

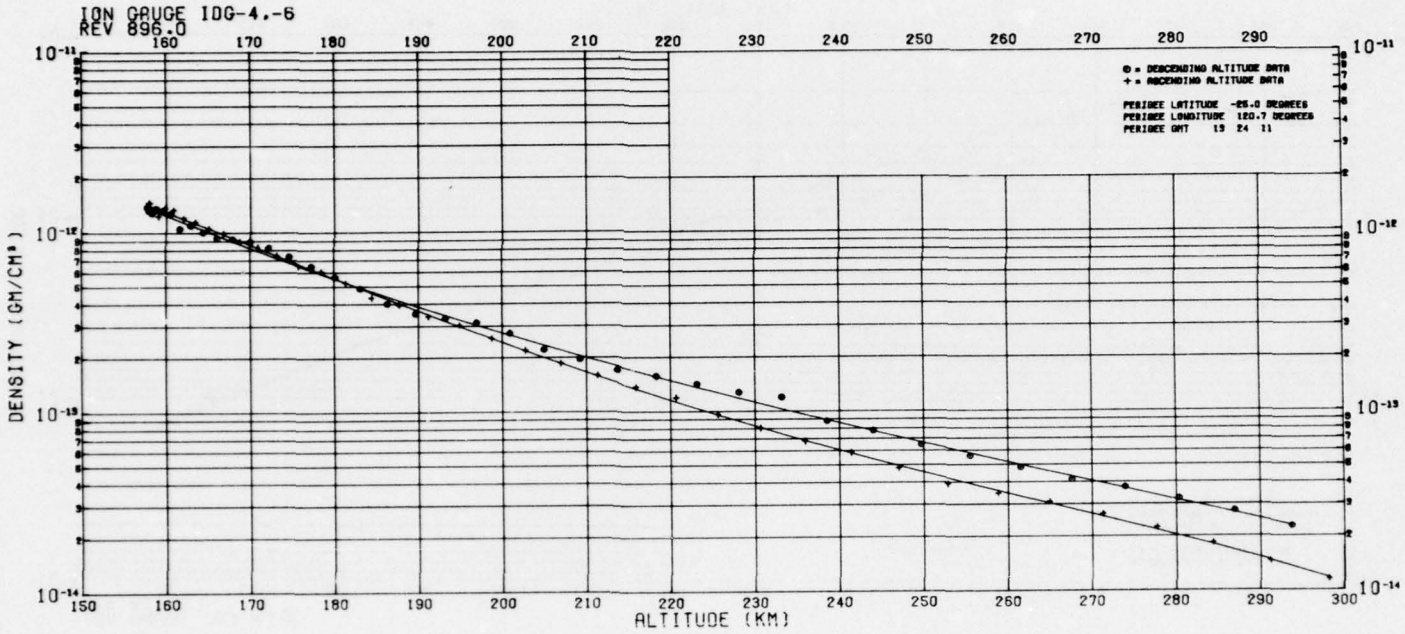
6 OF 6
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A032373

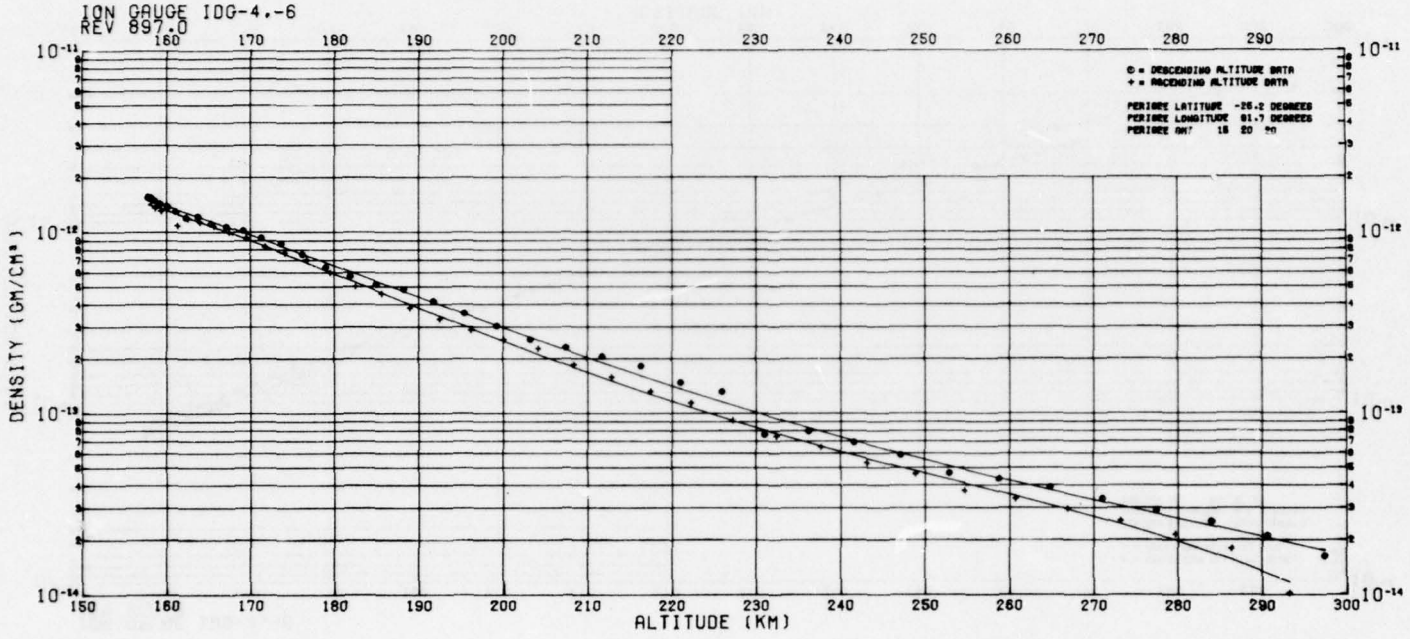


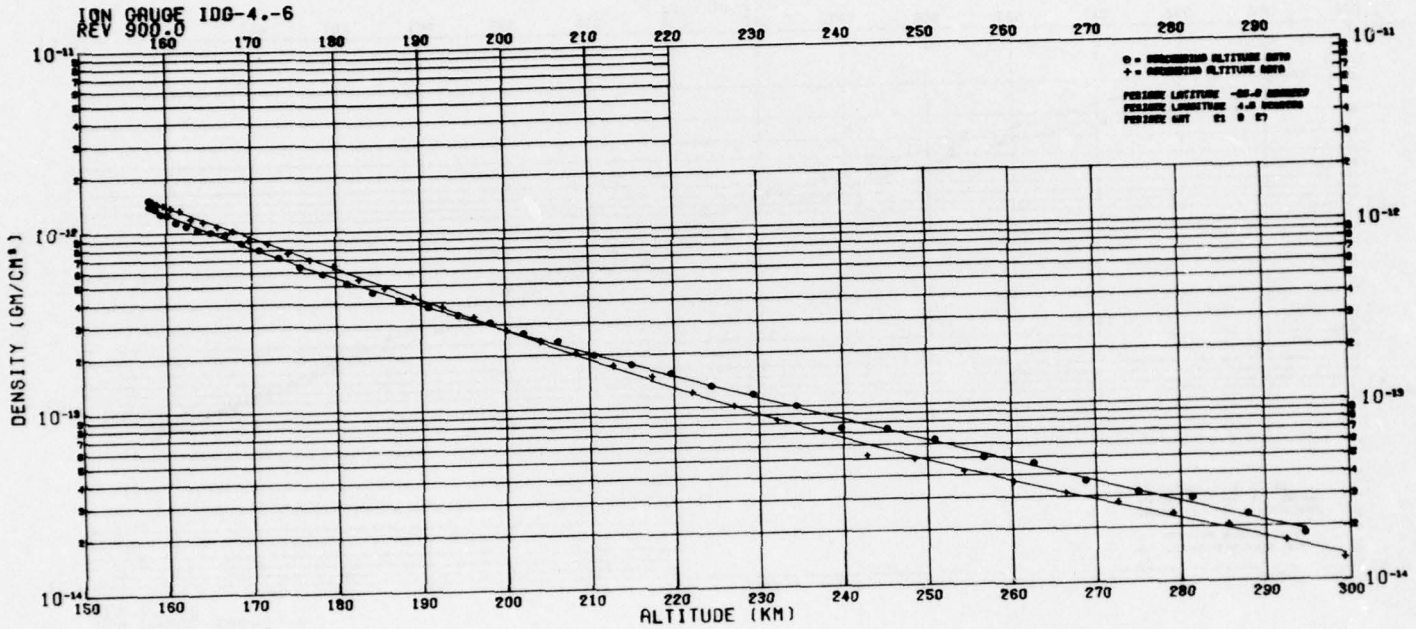
END
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1-77

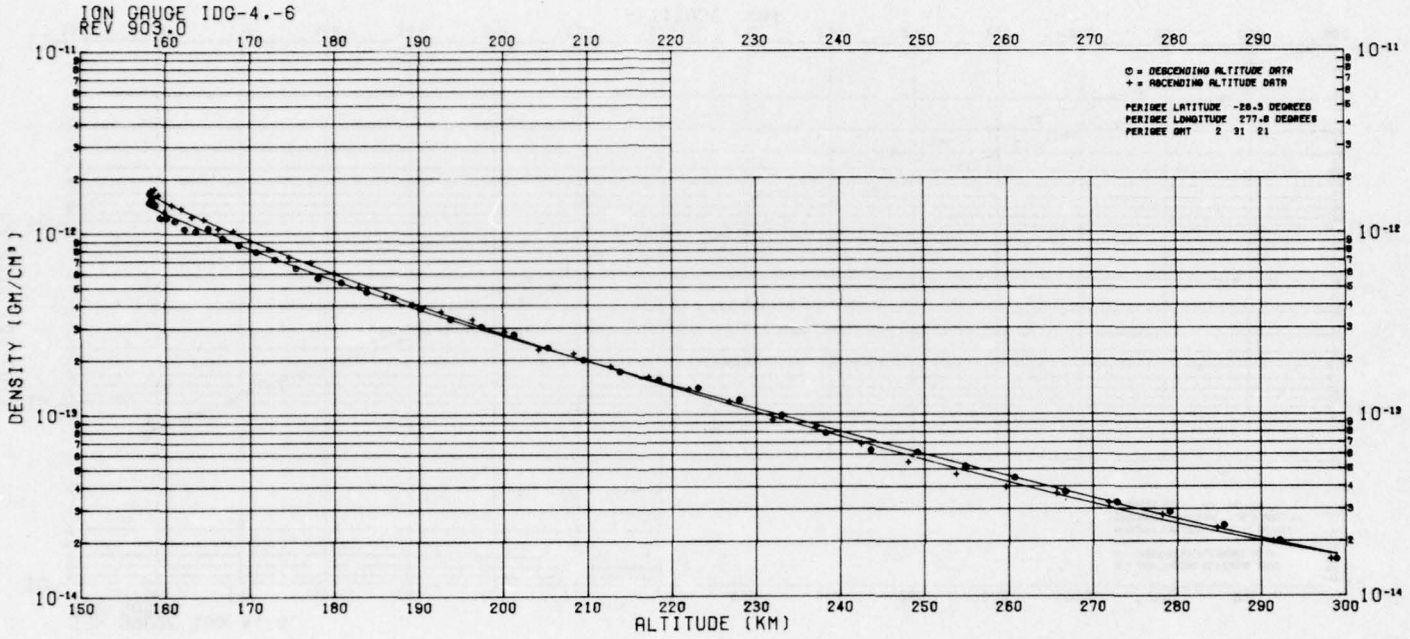

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1.1
1.25
1.4
1.6
1.8
2.0
2.2
2.5
2.8
3.2
3.6
4.0
4.5
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6.3
7.1
8.0
9.0
MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS-1963-A

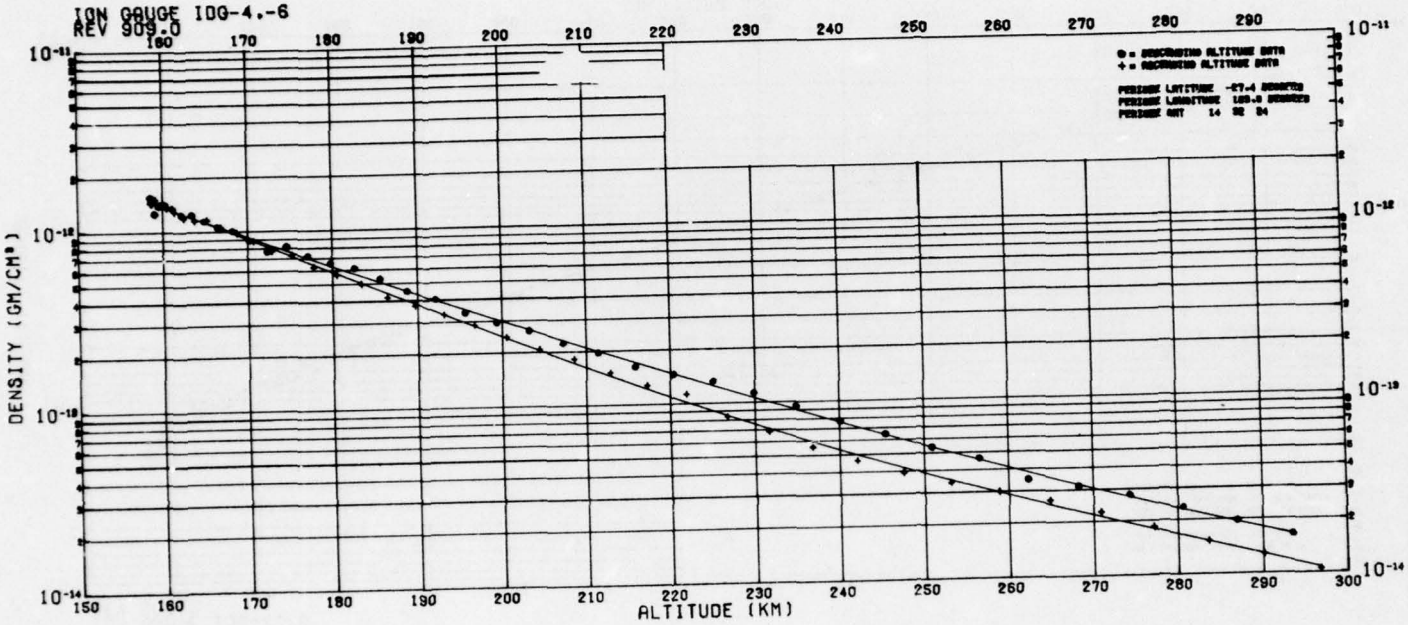

ION GAUGE IDG-4,-6
REV 895.0
⊙ = DESCENDING ALTITUDE DATA
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DENSITY (GM/CM³)
ALTITUDE (KM)

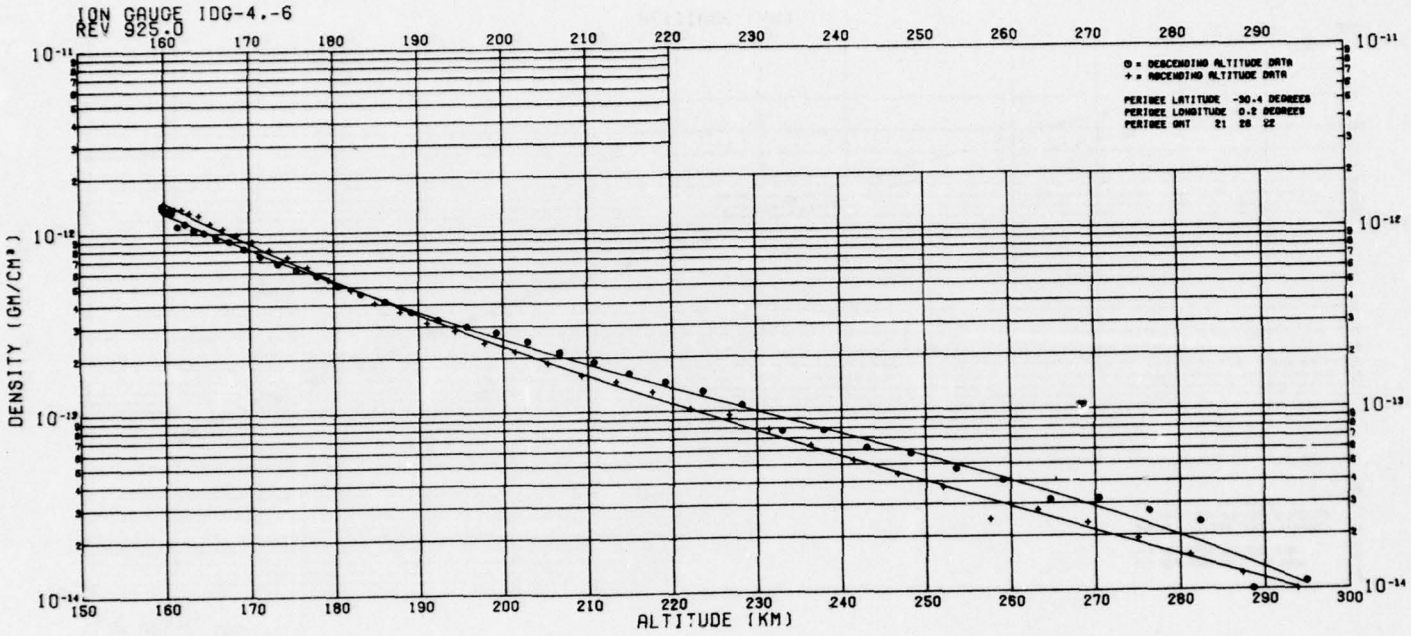

ION GAUGE IDG-4,-6
REV 896.0
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PERIGEE LATITUDE -25.0 DEGREES
PERIGEE LONGITUDE 120.7 DEGREES
PERIGEE GMT 19 24 11
DENSITY (GM/CM³)
ALTITUDE (KM)
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10⁻¹²
10⁻¹³
10⁻¹⁴
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170
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190
200
210
220
230
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250
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280
290
300


ION GAUGE IDG-4,-6
REV 897.0
© = DESCENDING ALTITUDE DATA
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PERIGEE LATITUDE -26.2 DEGREES
PERIGEE LONGITUDE 81.7 DEGREES
PERIGEE GMT 15 20 00
DENSITY (GM/CM³)
ALTITUDE (KM)
10⁻¹¹
10⁻¹²
10⁻¹³
10⁻¹⁴
150
160
170
180
190
200
210
220
230
240
250
260
270
280
290
300


ION GAUGE IDG-4.-6
REV 900.0
DENSITY (GM/CM³)
ALTITUDE (KM)
150
160
170
180
190
200
210
220
230
240
250
260
270
280
290
300
10⁻¹¹
10⁻¹²
10⁻¹³
10⁻¹⁴


ION GAUGE IDG-4.-6
REV 903.0
© = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE -28.3 DEGREES
PERIGEE LONGITUDE 277.8 DEGREES
PERIGEE GMT 2 31 21
DENSITY (GM/CM³)
ALTITUDE (KM)
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10⁻¹²
10⁻¹³
10⁻¹⁴
150
160
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180
190
200
210
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230
240
250
260
270
280
290
300


ION GAUGE IDG-4,-6
REV 909.0
DENSITY (GM/CM³)
ALTITUDE (KM)
150
160
170
180
190
200
210
220
230
240
250
260
270
280
290
300
10⁻¹¹
10⁻¹²
10⁻¹³
10⁻¹⁴


ION GAUGE IDG-4,-6
REV 925.0
D = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE -30.4 DEGREES
PERIGEE LONGITUDE 0.2 DEGREES
PERIGEE GMT 21 28 22
DENSITY (GM/CM³)
ALTITUDE (KM)

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